A Clinical Lecture ON THE PSYCHOLOGY AND PSYCHOGENESIS OF HYSTERIA AND THE RÔLE OF THE SYMPATHETIC SYSTEM.

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GENTLEMEN,—The paucity of facts, the multiplicity of theories, the inexactitude of the terminology, and the evanescence of the phenomena we have to study render the psychology of hysteria a peculiarly difficult subject. In the short time available I propose to consider—(I.) the attributes of the hysterical mind; (II.) the psychogenic explanation of hysterical disorders put forward by several eminent psychologists; (III.) the rôle of psychogenesis in hysterical disorders and its limitations; and (IV.) the rôle of the sympathetic system.

I.—ATTRIBUTES OF THE HYSTERICAL MIND.

The psychology of the hysterical temperament or diathesis is usually confused by observers with the psychological explanation of hysterical disorders, but it seems to me important that they should be considered separately. Let us first settle what are the leading attributes of the hysterical mind, then we can discuss without prejudice how far these attributes are capable of explaining any or all of the disorders peculiar to hysterical persons.

It is generally agreed that there is an inherent difference between the characters and minds of hysterical persons and those of others who are not hysterical. This difference may be so slight as to escape detection in ordinary life. In most instances it consists of that kind and degree of difference which may exist between the normal types of male and female minds respectively. It is further generally, though not universally, agreed that this difference (or defect) of mind is inherent and inborn in the hysterical person. My own belief is that the peculiarity attaching to the hysterical nervous system is, in most instances, inherited; and that in every case it is certainly inherent, inborn, congenital, and therefore ineradicable. It can, however, be modified, and where the difference is only slight overcome by education and training. Just as a wasted limb or clumsy muscles may be brought up to a certain standard of efficiency, so can the mental instability of hysteria. But the difference from the normal type of stable nervous system is there throughout life and is liable to become manifest under strain, malnutrition, toxæmia, or other cause, just as the defective limb or muscles may similarly break down under similar causes. Hence Professor J. M. Charcot's famous dictum, "once hysterical always liable to hysteria."

Let us see what are the leading features of this defect or difference in mental composition which constitutes the hysterical character or type of mind. The first feature that strikes one is the instability and variability of the mental states, the mental faculties, the acts, and the thoughts of hysterical persons. This instability, this quality of being too readily started into action, is also seen in the ideo-motor and the other and more purely reflex centres in the bulbo-spinal, spinal, and sympathetic systems. Sydenham[1] in 1680 described this mental instability well. "All is caprice. They love without measure those whom they will soon hate without reason. Now they will do this, now that, ever receding from their purpose." Briquet[2] in 1859 dwelt more on the emotional instability as being the chief feature of the hysterical mind, and without doubt it is a very striking feature. But in typical cases there is more or less instability of all the mental faculties—sensation, perception, memory, imagination, feelings and emotion, ideation and conation, attention, judgment and will. The will power is variable and apparently insufficient to control the unruly thoughts, acts, and emotions; but it has often seemed to me that this deficiency is sometimes more apparent than real, by reason of the strength and unruliness of the emotions which the will has to control. All the faculties vary from time to time and thus again it happens that the hysterical mind is what we call an unbalanced mind.

An important mental characteristic of hysterics which has been insisted on in more recent times by Ribot[3] is the deficient power of attention or concentration of the mind on a given subject. In hysterical subjects the intelligence is often very good, sometimes of a high order, but they lack power to concentrate their minds for any length of time without becoming tired—in short, their power of attention is faulty. Now, the faculty of mind which we call attention is, as Ribot has pointed out, of two kinds. One kind, the spontaneous attention, depends simply on states of pleasure (or pain, as the case may be), as when an infant's attention is fixed by the jingle and brightness of a bunch of keys. This kind of attention needs no mental effort. But, the other kind, voluntary attention, requires an exercise of the reasoning powers or judgment, as, for instance, in the pursuit of money as a means to an end. This kind of attention is a later acquisition and depends upon an effort of the will. It is this latter kind which is deficient in hysterical persons. The spontaneous attention, however, often remains unimpaired, or but little wanting, so that they may be able to appreciate simple pleasures, or take part in things which attract them, but not otherwise. Hence it happens that hysterical persons are sometimes accused of shamming or at least of inconsistency—e.g., of doing only those things which please them. But this is an unjust accusation; it is simply that their voluntary attention, one of the higher and later evolved qualities of the mind, is deficient, unstable, and easily tired.

Another mental characteristic of hysterical persons which was overlooked, I believe, till the time of Charcot, is their constant tendency to mental abstraction, or, as this great observer expressed it, to a kind of self-hypnotism in a waking state (*hypnotisme à l'état de veille*). Occasional "absent-mindedness" is met with in many mental states, normal and abnormal, but those who are brought into close daily contact with hysterical persons will notice that they have a constant tendency to become dreamy. Their attention soon wearies, as just mentioned, and they become absent-minded, they dream, they abstract themselves, so to speak, from their surroundings. Possibly it was this quality which led the ancients to regard them as soothsayers and seers of visions. In marked cases they may become mere automatons, like persons who are in an almost continuous state of hypnotism, dropping back again into that state directly after they have been aroused. Dr. Pierre Janet[4] and other recent psychological observers have well described this condition as a retraction of the field of consciousness. Some observers regard it as an invariable quality of mind in all hysterical persons, and some, as we shall see later, would explain all hysterical disorders psychologically on this fundamental basis of retraction of the field of consciousness.

These are the main qualities of mind found in subjects of the hysterical diathesis (a phrase which I use to connote "tendency to the development of hysterical disorders"). And it does not need a great stretch of imagination to see that they constitute really not so much a mental defect as a peculiar habit of mind or character which might be described with approximate accuracy as an exaggerated femininity of mind. Some authors mention certain stigmata (marks of identification) as belonging to the hysterical temperament. Dr. Janet,[5] for instance, in his most excellent work on the symptoms of hysteria, describes three stigmata—suggestibility, somnambulism, and alternation of mental states. In regard to the first probably hysterical subjects are apt to be under the influence of more powerful wills of those who happen to be around them, but I cannot agree that they are invariably or specially susceptible to auto- or hetero-suggestion or that they are necessarily more hypnotisable than non-hysterical subjects. Bernheim, Lloyd

[1] The Works of Thomas Sydenham, translated by Dr. R. G. Latham, vol. ii., p. 89, the Sydenham Society, London, 1850.
[2] Briquet: Traité Clinique et Thérapeutique de l'Hystérie, Paris, 1859.
[3] Ribot: Psychology of Attention, Chicago, 1890.
[4] L'État Mental des Hystériques, Paris, 1893.
[5] Pierre Janet: Major Symptoms of Hysteria, p. 233, New York, 1907.

Tuckey, and others find that hysterical are not more but rather less hypnotisable than non-hysterical persons. In regard to somnambulism, if Janet really means automatism or absent-mindedness (subject to constant retraction of the fields of consciousness) I am in entire accord. In regard to the alternation of mental states which undoubtedly occurs so constantly in hysterical subjects, this is only another way of expressing the caprice observed by Sydenham and all observers since his day. This alternation and tendency to change and evanescence is the quality which is, *par excellence*, peculiar to all hysterical phenomena, both mental and physical, a quality, by the way, which renders them so difficult of investigation; all is caprice, instability, and alternation. Thus do we recognise the hysterical mind. But to identify the hysterical diathesis is not always easy without the occurrence of some definite hysterical disorder. It can, however, be recognised in some cases by the emotional instability and by a tendency to abstraction or automatism, especially when these are coupled with certain physical symptoms elsewhere discussed, such as a tendency to flushing and fainting (vaso-motor instability).

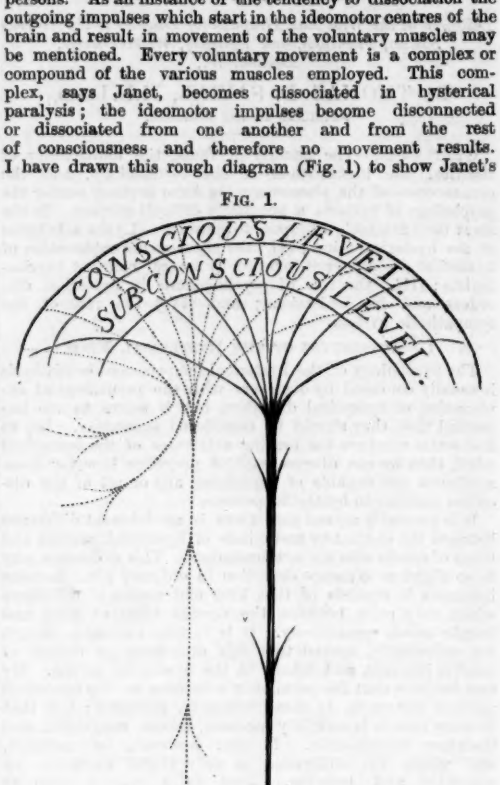
II.—PSYCHOLOGISTS' EXPLANATION OF HYSTERICAL DISORDERS.

Having considered the leading attributes of the hysterical mind we now pass to consider the possibility of a psychological explanation of hysterical disorders such as convulsions, paralysis, anæsthesia, palpitations, globus, syncopal, and many other forms of attack. The view that all hysterical disorders are of psychic origin is not a new one. There was a time when hysterical disorders and phenomena were regarded as an evidence of witchcraft or sorcery and in some instances as a gift of supernatural powers of the mind. Later hysteria was thought to be pure naughtiness and some patients were whipped. In more recent times hysterical disorders were looked upon as shams—i.e., produced by the will and existing solely in the mind of the patient—chiefly because of the evanescent character even of quite serious symptoms. Professor Charcot, writing between 1880 and 1890, adopted a physiological explanation and came to the conclusion that some hysterical disorders—paralysis, for instance—were due to some *physiological change* in the brain. What this change was he did not suggest but said it must be "some functional or dynamic change which our present means of investigation have not enabled us to discover." I am not sure if he ever extended this explanation to all hysterical disorders; I think not. Later he adopted the view that some hysterical disorders were a kind of auto-hypnotism, a view which has been widely held ever since his day.

Most physicians recognise the important part which the brain and the mind play in the production of hysterical disorders. But recent observers, chiefly among the psychologists and alienists, say that all hysterical disorders are purely mental in origin and are due to some kind of defect in the mind or in the mental processes of the patient; and further that there is, inferentially, according to these observers, no necessity for assuming any physiological change in the brain such as Professor Charcot suggested, or any vaso-motor or vascular change such as I have suggested.[6] Some, Dr. G. H. Savage for instance, even go the length of regarding hysteria simply as a form of insanity.

Dr. Pierre Janet, professor of psychology in the Collège de France, is one of the most renowned of this school of psychologists. He has made most valuable and prolonged investigations into the psychological aspect of hysterical affections and has come to the conclusion that all hysterical disorders are purely mental in origin. He defines hysteria[7] as "a form of mental depression characterised by the retraction of the field of personal consciousness and a tendency to the dissociation and emancipation of the systems of ideas and functions that constitute personality." As an illustration of the retraction of the field of personal consciousness, his observations may be cited concerning the bilateral retraction of the fields of vision met with fairly commonly in hysterical persons. These patients sometimes present marked retraction of the visual fields as measured by the perimeter; nevertheless, they have no difficulty in avoiding obstacles at the side of them and in playing ball and they can read a printed page with ease in a way that a glaucomatous patient with a similar visual retraction cannot do. Glaucomatous patients cannot avoid obstacles beside them and can only read with great difficulty because they cannot see more than one letter at a time. These observations led Dr. Janet to the inference that hysterical patients with amaurosis must retain a *subconscious* power of visual perception and that their amaurosis is due to a retraction of their fields of *conscious* visual perception only. This is a most reasonable and probable explanation of one of the commonest visual defects in hysterical persons. As an instance of the tendency to dissociation the outgoing impulses which start in the ideomotor centres of the brain and result in movement of the voluntary muscles may be mentioned. Every voluntary movement is a complex or compound of the various muscles employed. This complex, says Janet, becomes dissociated in hysterical paralysis; the ideomotor impulses become disconnected or dissociated from one another and from the rest of consciousness and therefore no movement results. I have drawn this rough diagram (Fig. 1) to show Janet's

FIG. 1.



Scheme of conscious and sub-conscious levels of the brain. M, Motor; S, Sensory impulses.

hypothesis as it appears to me. The highest level of the mind is the conscious level; but beneath this is a level of semi- or sub-consciousness where the synthetic, coördinating, recording processes go on, and where automatic sensations are recorded and automatic acts originate. When the control of the higher centres is in abeyance the tracts and centres in this lower level are capable of acting without the person's consciousness. Hence the absent-mindedness and automatism undoubtedly observable in hysterical subjects.

In Janet's view hysterical symptoms may be dependent upon a fixed idea, but it is the effect of the fixed idea and not the idea itself which is pathological;[8] like Löwenfeld[9] he holds that hysteria is not ideogenesis. In this way he separates himself from Bernheim, Dubois, Grasset, and

[6] THE LANCET, June 1st, 1901, p. 1513, and elsewhere.
[7] Pierre Janet: Ibid., p. 332.
[8] Loc. cit., p. 326.
[9] Brain, 1894, p. 121.

others, who believe that hysteria is closely allied to, if not identical with, insanity, and from Dr. G. H. Savage[10] who regards hysteria as "undeveloped mania." On the other hand, Janet includes some conditions (such as copralalia and echolalia and other mental symptoms) as hysterical which most people regard as belonging rather to the category of insanity. Janet further holds: 1. That since many hysterical symptoms, such as right-sided paralysis with aphasia, follow the laws of similar organic symptoms which the patient cannot know, the patient cannot be accused of voluntarily producing or shamming these symptoms. 2. That in the *determination* (initiation) of hysterical symptoms certain contributory causes are necessary, such for instance as (*a*) an exhaustion of the higher functions of the encephalon; or (*b*) a lowered nervous tension dependent either on heredity, puberty, local lesions, intoxications, physical or intellectual fatigue, or emotion. 3. That although the *localisation* of hysterical symptoms is difficult to account for, it may be explained by various contributory causes such as (*a*) the recurrence of morbid nervous influences along tracts previously damaged by the same symptoms; (*b*) a dissociation which may bear "on a function that for some reason or other has remained weak or disturbed"—e.g., when a patient who was formerly a stammerer becomes dumb after emotion; or (*c*) the function that disappears may be "the most complicated and difficult for the subject, as in the case of professional and social paralyses; or (*d*) the dissociation may bear on the function that was in full activity at the moment of a great emotion.

Professor Sigmund Freud and Dr. J. Breuer,[11] while agreeing in the main as to the psychogenic origin of hysteria, have gone one step further and endeavoured to trace the causation of the mental disturbance to which, as the psychologists say, all hysterical disorders are attributable, to some painful emotional shock in the previous experience of the patient, some painful reminiscence in short. It is difficult for me to understand exactly Freud's meaning because I am not a good German scholar and his German is particularly difficult to read. But that is how I understand his theory—namely, that all hysterical phenomena (disorders) are the consequence of some disagreeable, forgotten, subconscious memory. In Freud's own words, "the hysterical suffer from reminiscences." Some mental or emotional shock has occurred in the past life of the patient and has become buried or forgotten in a state of subconsciousness where it becomes the cause of the patient's present hysterical symptoms. That is his fundamental proposition. Moreover, when this buried reminiscence is translated into awakened consciousness and gives rise to action of some kind the hysterical symptoms disappear. His method of treatment, therefore, is based upon the search for, and discovery of, this subconscious painful memory, either by conversation with the patient or by the recital of her dreams or the revival of forgotten scenes. Now it so happens that a considerable proportion of the unpleasant memories or emotional shocks that have left impressions upon the mind in times past is related, directly or indirectly, to sexual matters, not only in the mind of the hysterical, but also in the mind of the non-hysterical person. It follows, therefore, that Freud's investigations have a tendency towards the revival of repressed and long-forgotten sexual incidents. Aschaffenburg and others also understand Freud's views in this aspect, and it appears to me, as to Aschaffenburg, that there is a good deal of danger both to the patient and to the physician in undertaking such investigations and such a line of treatment.

Here is a case under the care of one of my colleagues. This girl, aged nine years, presents, you see, a very curious contracture, with spasmodic movements, limited to the right upper extremity. The elbow is fixed and the hand is drawn backwards with the palm upwards. At times these spasmodic movements become much more violent and spread to the muscles of the neck, especially when she is nervous. You will also notice that the hand is in a cyanotic condition up to the level of the middle of the forearm, resembling the *œdème bleu* of Charcot. This curiously-distorted condition of contracture of the upper extremity came on quite suddenly a year ago and has persisted more or less ever since. It does not correspond to any known type of organic disease. It started as a contracture with these clonic movements and reached its maximum at the outset; it is unattended by any of the signs of organic brain disease or of the lateral columns or other signs of organic disease; it has varied considerably in degree during the year it has existed. These features have induced us to diagnose the case as certainly hysterical. Now Janet and Freud would regard this case as purely of psychic origin—that is to say, a disturbance of the ideogenetic functions of the mind concerned in the production of movements and vascularity of the right upper extremity; in short, that these symptoms are of purely psychogenic origin. But I find it difficult to believe that the contracture has arisen without any dynamic or organic change in the arm centre of the left cerebral hemisphere, I find it difficult to account for the limited localisation on that view, and I can hardly believe that this hypothesis explains the blue œdema of the affected limb. Freud would go further and say that the source of this peculiar mental state which has determined the contracture and vascular disturbance is a buried reminiscence of an unpleasant kind; moreover, that when this reminiscence is translated into awakened consciousness and gives rise to action of some kind the hysterical symptoms will all disappear. In point of fact there can be elicited in the child's history some sort of disagreeable sexual recollections in connexion with a little boy who sat beside her upon the same form as herself at school, which resulted in arousing and subsequently in repressing the dormant sexual instinct. Here, then, is the cause Freud would say of the hysterical contracture. The patient has been in the hospital a month and though she has varied from time to time as all hysterical cases do she is now no better than she was on admission.

I hope that I have not unintentionally misinterpreted or misunderstood Dr. Freud's writings. But before passing from this subject I must, with much deference, differ from at least one of his statements. He states that in hysteria there is always a hereditary or constitutional factor which takes the form of the sexual constitution and that, given a normal *vita sexualis*, a neurosis (hysteria, neurasthenia, and other obsessional and phobic psycho-neuroses) is impossible. This does not accord with my experience, now somewhat considerable, of these neuroses.

I have seen scores of neurasthenics and hysterics whose sexual life-history and constitution were absolutely normal. Briquet long ago disputed the idea of the sexual origin of hysteria and made statistical inquiries among various classes of the community (married, celibate, and prostitute) which entirely supported his position, and I have also made similar inquiries always with the same result. In any case, I cannot but regard it as a most undesirable thing for any medical person, and particularly for one of the opposite sex, to make investigations into the dead memories of a sexual past and to call them into a state of activity. To my mind such a procedure would be hazardous, harmful, and wholly unjustifiable.

III.—THE RÔLE OF PSYCHOGENESIS IN HYSTERIA AND ITS LIMITATIONS.

Undoubtedly the nervous system of hysterical subjects is abnormal; it is unstable throughout—mind, brain, spinal cord, and sympathetic system. But to say that hysterical subjects are psychologically abnormal is not sufficient to explain hysterical disorders psychically, yet this is practically what psychologists do. A nervous system may be unstable, but without some slight disturbing physical factor how are symptoms of physical disease to manifest themselves? And one of the most remarkable facts about hysterical disorders is the way in which they ape or copy almost any known organic disorder of the nervous system.

I fear that psychologists—who, as I have previously mentioned, form the bulk of those who find a universal explanation of hysteria in mental conditions—take too narrow a view of hysteria and do not include many symptoms and disorders which general physicians are accustomed to meet with and to regard as hysterical. Nor is this surprising with those whose studies are chiefly carried on in psychological cliniques where patients apply solely, or principally, on account of mental defects. There are two reasons why it appears to me that the psychological school take too narrow

[10] Insanity and Allied Neuroses.

[11] Neurologisches Centralblatt, 1894 and 1895. Monatschrift für Psychiatrie und Neurologie, 1889, 1901, and 1905. Studien über Hysterie, 1895.

a view of hysteria: (1) there is a notable absence from many of their writings of any mention or attempted explanation of some of the circulatory and somatic symptoms, such as syncope, convulsions, skin phenomena, attacks of "burstings," and "flushings" to the head, palpitations, phantom tumours, œdema, borborygmi, and so on; and (2) the relative frequency of various hysterical symptoms, according to some of these observers, varies considerably from that given by observers engaged in general medicine.

We must always keep well before us the facts, the phenomena, which we have to investigate. Let us test this pyschogenic explanation of hysterical symptoms by a case taken haphazard. A woman, aged 34 years, has attended my outpatient department for some years for various hysterical phenomena. She came again on Feb. 6th, 1906, telling us that she had been confined on Jan. 1st, 1906, and that a week later, while still in bed, she was suddenly seized with "a hot feeling and flushing all over the body." This attack came on very suddenly, "all the use going out of the left arm and leg." This paralysis was accompanied by "numbness and loss of feeling all over the left side of the body, half the face, tongue, and all." These were her own unsolicited statements. The "hot feeling all over" lasted only half to three-quarters of an hour, but the paralysis and numbness of half the body lasted several days and had since returned again from time to time. She is liable to various other hysterical attacks on which we need not now enter. She flushes very easily and she adds, "very often my hands go all white spots as you see them now." Truly enough the hands were purple in colour and mottled with white. This patient told us that some of her previous attacks had been preceded "by pain and stiffness in the left shoulder and a hot feeling all up the back." Thinking therefore that they might be toxæmic, possibly rheumatic, I gave her salicylate of sodium and cascara. All her attacks and other symptoms suddenly ceased and did not return while she was taking these remedies—that is to say, for several months. After an interval of a year and a half she came again (February, 1908) with precisely the same symptoms, weakness of the left arm and leg and anæsthesia of the left half of the body, both of which we could now verify. Again I gave her salicylate and cascara, and again she made a rapid and complete recovery. No psychic treatment has ever been employed in this case. Is it possible to account for all the phenomena ot this patient's attacks just described purely as a psychosis? How are we to account for the paresis and anæsthesia being strictly limited to the left half of the body? The generalised flushing might perhaps be psychogenic. But what of the mottled vaso-motor disturbances of the hands? Careful inquiry showed that these paralytic attacks were preceded by "dizzy feelings" in the head (as of some circulatory disturbance), and, as already mentioned, were closely associated with vaso-motor changes in the skin. It seems to me much more probable that these attacks of paralysis and anæsthesia were due to a disturbance of the cerebral circulation dependent upon derangement of the splanchnic vaso-motor area by a toxæmia of intestinal origin. That explains the two prompt cures by salicylate (one of the best intestinal antiseptics) and cascara.

I have elsewhere [12] referred at considerable length to the relation which exists between the splanchnic vaso-motor area on the one hand and the skin and the brain on the other. In 1904 [13] I drew attention to what I believed had never been observed before—namely, that most hysterical symptoms and disorders when coming on suddenly (as they nearly always do) are heralded by some vascular alterations in the skin. But I did not then know that Sydenham had observed much the same thing, He says [14]: "It is very remarkable that in many cases a notable sensation of cold over the external parts precedes these symptoms (palsy, convulsions, clavus, vicarious pains, hysterical œdema), a sensation which not infrequently lasts throughout the fit. More than once I have found this coldness to be like that of a corpse, the pulse meanwhile being natural."

There are other cases which present attacks of what I call a "syncopal type," where a psychological explanation appears to me wholly inadequate. I have mentioned several instances in my previous lectures. Here is a woman, aged 31 years (7022), who has been attending as one of my out-patients on and off for some years. She has two children, aged six and ten years respectively, both of whom, by the way, have been patients of mine for "nervousness." Here is her statement in her own words: "All my symptoms come on suddenly. I may be in good health one minute and then suddenly I lose myself in a dazed feeling and some attack comes on. Sometimes it is restlessness; I feel that I cannot sit still. Once I was walking with my little boy in the street when I got a sudden choking in my throat; then a shaking came on from head to foot and I felt as though all the power had gone out from me. I ran into a public-house and sat down. The attack lasted a few minutes and then went away as suddenly as it had come." At the age of 15 or 16 years she had typical hysterical globus—a ball in the throat—but not again until lately (March, 1906). Note on Dec. 8th, 1906. She says: "Mostly out of doors I get my panics." Note on August 15th, 1907: "Two days ago I had two attacks on three days running. I did not fall but felt very cold all over. It lasted about three minutes. I kept on constantly swallowing all through the attack. I felt excited, as if I was going to die." Jan. 22nd, 1908: "Says she loses herself with a dazed, peculiar feeling. Feels she must scream and then becomes oblivious of her surroundings."

It can scarcely be denied that this woman's symptoms are hysterical and—if we exclude the globus for a moment—they all clearly originate within the cranium. They all begin with a curious dazed feeling, i.e., a disturbance of consciousness, and are followed by excitement or by fainting. How and why should consciousness be disturbed in this sudden way unless there is some underlying physical change? These attacks of dazed and fainting feelings when closely studied present all the features of a sudden disturbance of the cerebral circulation. To my mind they can only be explained, on grounds which I have elsewhere mentioned in detail,[15] by some passing circulatory change within the cranium acting on inherently unstable nervous centres. The fact that the attacks usually start with a feeling of being cold all over, or when the patient is out of doors and the surface is apt to be chilled, also supports this view.

Let me take one more illustration without selection from my out-patients. This woman, aged 22 years (11273), came complaining of "shivering" and "dead hands." She has had various hysterical symptoms in times past. She has had curious attacks which start with "pins and needles" all over her and with "palpitations of the heart." Then her "throat contracts" and she "cannot get her breath." During the attack she gets very frightened, her limbs shake, and her "hands go white and dead." She can speak during an attack but is oblivious to her surroundings. After "bringing up a lot of wind" she is relieved. The order of the phenomena of an attack in her case was always the same: (1) "pins and needles," with palpitation; (2) shaking of the limbs; and (3) dead white hands and feet. During the attack, which lasted from 10 to 15 minutes, consciousness was interfered with. The shaking and whiteness of the hands were both more marked on the right side. She had three physical signs—greatly increased knee-jerks, nystagmus, and pyorrhœa alveolaris. Now that the last named is cured the attacks have ceased; they appear, therefore, to have been due to an auto-infection acting upon an inherently unstable vaso-motor system. The peripheral vaso-motor symptoms in her case were well marked, and I suggest that vaso-motor (or circulatory) changes within the cranium were the underlying physical cause of the psychic phenomena.

How are we to account for hysterical convulsions on a purely psychogenic hypothesis? This is one of the most frequent of hysterical phenomena. Convulsions or trepidations affected 305 out of Briquet's 421 cases (70 per cent.) and 327 out of my 500 cases (65·4 per cent.). This is a hysterical disorder which is inadequately dealt with by the psychological school, and I fail to understand how it can be produced purely by mental processes. On the other hand we know, thanks to the researches of Kussmaul and others, that convulsions of greater or less degree can be determined experimentally both by cerebral anæmia and cerebral congestion. My conception of the pathology of hysteria and hysterical disorders is that there is always a predisposing factor which consists of an instability of *all the nerve centres* throughout the body; and secondly, a determining or exciting factor which brings on a hysterical attack, symptom,

[12] THE LANCET, July 20th, 1901, p. 119.
[13] Clinical Journal, June 1st, 1904.
[14] Loc. cit., p. 88.
[15] THE LANCET, July 20th, 1901, p. 119.

or disorder. The instability of the nerve centres within the brain, the spinal cord, and the sympathetic system is such that slighter causes will act in hysterical than in non-hysterical persons. In a large proportion of cases such a determining cause consists of a vaso-motor or vascular disturbance, which is itself dependent on the obvious instability of the sympathetic reflex centres. In the case of hysterical convulsions this explanation appears so obvious as to need no further insistence.

But, gentlemen, I do not wish to insist too much on one explanation of hysterical phenomena. The purely psychic origin of some cases is beyond doubt; indeed, I think that quite a number are of psychic origin. Take, for instance, the hysterical tics. Here is a case of very widespread tics in a girl aged 19 years who has been affected on and off since the age of 12. The explanation of such tics is undoubtedly psychic, and to my mind the explanation is quite simple, without the importation of any elaborate theory, as follows. Let us first remember that it is easier for all people to perform a movement previously performed (that is the principle on which training for cricket and other games depends), and the more often it is practised the easier it becomes. From this we infer that all nerve impulses find it easier to traverse the same tract or combination of tracts which they have traversed before. Secondly, let us remember that the subjects of tics possess a nervous system which is inherently unstable—all their centres can be "fired off" with great ease. Now start in such an individual some purposive movement, such as, in this patient, the brushing back of her hair, which is always falling over her face, or a cough for a tickling in the throat, or the stretching of the neck to relieve the rubbing of a collar; and let the movement be constantly repeated it soon becomes a habit, and the habit soon becomes a trick or tic. Every time such a movement is repeated it becomes easier and the centres fire off more easily, until at last the whole thing becomes automatic and uncontrollable. The production of these tics depends upon the two principles which I have named: (1) the principle on which all professional and skilled movements, such as those of cricket and football, depend; and (2) the existence of an inherently unstable system. This case is now probably a purely psychic disorder and consists of the uncontrolled automatic action of the ideo-motor centres. Sometimes these tics, particularly universal tics, start in a rheumatic or choreic illness. Here is a girl, aged 19 years, who has had twitchings of the arms and legs and sometimes of the head, not so marked as in the previous case, on and off ever since she was 8½ years old. These movements followed an attack of rheumatic fever and at first she was laid up with them. Evidently it was a chorea following active rheumatism, as so frequently happens, and the choreiform movements have become perpetuated in a person of unstable nervous system.

Cases of psychological phenomena pure and simple, of course, may admit of psychogenic explanation. Though here again a great many, if not all, of such cases are initiated by a seizure of some kind, denoting some form of vascular disturbance, as in the case I recorded some years ago[16] of a girl who, after a convulsive seizure, suddenly lost her faculties for reading and writing for many months. Another patient, now attending the out-patient department, constantly calls things by their wrong names ever since a non-descript attack of palpitation, breathlessness, and curious feelings in the head which occurred six months ago.

Some cases of anæsthesia may be quite well explained by psychogenesis. In the sensory apparatus we are dealing with centripetal tracts, and the resulting sensory effects are only manifested to the mind of the patient. Hysterical patients are full of misconstrued sensations and misconstrued percepts. The result of a given peripheral sensory stimulus depends very much upon, and is controlled by the state of, the patient's mind at a given time. This fact is readily noticed when one is testing a patient's tactile sensation; and it is well known that in the heat and excitement of battle a man may be totally unconscious that he has received a severe and painful wound. In short, when an individual's attention is attracted elsewhere or held by some idea his perception of sensations may be in complete abeyance. The mind, without any central physical change so far as we know or can infer, plays a most important rôle in sensory and sensorial phenomena. Indeed, the mind can *create* results (percepts) without any peripheral stimulus, as is evidenced by hallucinations of sight, hearing, and common sensation. On the other hand, the mind can neglect, or be oblivious of, the resulting percept of a given stimulus when the attention is concentrated in another direction, or, as Janet would say, when the field of consciousness is limited.

[16] Clinical Journal Oct. 7th, 1896, p. 395.

IV.—THE RÔLE OF THE SYMPATHETIC SYSTEM.

There are, however, some cases of hemianæsthesia which I think do not admit of psychogenic explanation. This girl, aged 16 years, was admitted into the West-End Hospital for Diseases of the Nervous System on June 23rd, 1908, for hemianæsthesia and tremor on the left side of the body, with stiffness and slight weakness of the left arm and leg—a group of symptoms conforming to the recognised type due to an embolic lesion at the posterior end of the internal capsule involving Charcot's sensory crossway—i.e., definite damage of the sensory and incomplete damage of the motor strands supplying the left half of the body. There were analgesia and anæsthesia involving the entire left side of the trunk, face, and limbs. There was some retraction of both fields of vision, but it was more marked in the left eye. She walked with a limp owing to the stiffness of the left leg, the ankle turning inwards. The arm was a little weak. All the deep reflexes were increased, but especially on the left side. The tremors in the left arm and leg were small and vibratile, just such as one finds in embolic lesions in the position mentioned. She had had "rheumatism" at the age of 10 years and, though we could find no definite evidences of valvular mischief, you know how often mitral stenosis is overlooked.

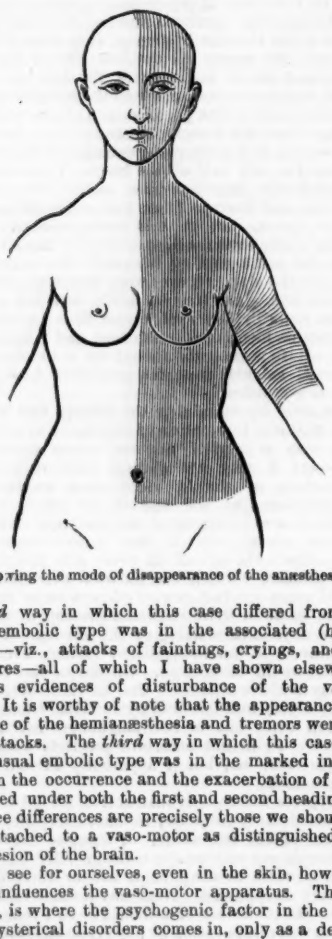
It was only by examining the history and watching the progress that the true nature of the case was revealed. Her mother, who is herself nervous, states that the patient was always a very "hysterical and excitable child." A contracture of the left foot came on suddenly after the rheumatism, at the age of 10 years, and it had disappeared and reappeared as suddenly from time to time ever since, and it has varied considerably in degree. About the age of 11 years she became subject to fainting attacks, "which had recurred ever since." At the age of 12 years she had one of these attacks in church and when she came to there existed a shaking of the left arm and a few days later shaking of the left leg. This shaking has continued in an intermittent fashion ever since, any excitement would bring it on. On one or two occasions she had had convulsive seizures. One of these seizures, accompanied by crying and followed by universal tremors, occurred in hospital after one of her neighbours had a hysterical attack. We could not ascertain precisely when the hemianæsthesia came on, but it apparently existed six months before admission.

Her progress was equally instructive, for all her symptoms varied considerably from day to day, excepting at first the contracture of the left ankle. I thought this contracture might interest my orthopædic colleague, Mr. Laming Evans, but when he came to examine it two or three days later it had entirely disappeared. Next day it came back again just as before. In the course of a month or so I found the hemianæsthesia was disappearing as hysterical cases often do from the periphery towards the centre in a segmental fashion, and on July 23rd it was limited by a circular line round the elbow and round the trunk just below the umbilicus. (Fig. 2.) The treatment consisted of rest and regular life in hospital, the faradic brush, static sparking over the spine, and ergot internally, and she left the hospital in August free for the moment from all symptoms, excepting the retracture of the fields of vision.

It seems to me impossible to account for this case, so far as the hemianæsthesia and tremor on one side are concerned, excepting by a lesion of some kind—call it dynamic or what you will—the chief incidence of which affected the sensory crossway. It very closely resembled the recognised type of embolic lesions excepting in three respects: *first*, the variability of the symptoms and the sudden way in which they disappeared and reappeared, in a way which an embolic or thrombotic lesion would never do, though they also come on suddenly. But, if we assume that the lesion was nevertheless related to the blood-supply affecting highly sensitive and previously damaged centres, such as could easily be affected by the vaso-motor apparatus, which we know regulates the vascular supply to all organs

either directly in the brain or indirectly through the splanchnic area—if we assume such a dynamic or nutritional lesion the mystery is solved. The symptoms varied just as a vaso-motor lesion would do. We can see in the skin how vaso-motor actions vary from moment to moment and hour to hour. We can also see how they sometimes leave staining and sometimes other slight damage behind them.

FIG. 2.



Showing the mode of disappearance of the anæsthesia.

The *second* way in which this case differed from the recognised embolic type was in the associated (hysterical) symptoms—viz., attacks of faintings, cryings, and convulsive seizures—all of which I have shown elsewhere are themselves evidences of disturbance of the vaso-motor balance. It is worthy of note that the appearance and reappearance of the hemianæsthesia and tremors were marked by such attacks. The *third* way in which this case differed from the usual embolic type was in the marked influence of emotion on the occurrence and the exacerbation of the symptoms noted under both the first and second headings above. These three differences are precisely those we should expect to find attached to a vaso-motor as distinguished from an embolic lesion of the brain.

We can see for ourselves, even in the skin, how markedly emotion influences the vaso-motor apparatus. This, in my judgment, is where the psychogenic factor in the causation of most hysterical disorders comes in, only as a determining (emotional) factor which induces the vaso-motor changes. It is the vaso-motor changes which really produce the disorder, whether it is syncopal, convulsive, hemianæsthetic, or hemiparetic. No amount of will power, obliteration or retraction of fields of consciousness, could have produced this girl's group of symptoms. But, given inherently unstable nerve centres and cells throughout the nervous system, emotion starts vaso-motor changes and thus disturbs the blood-supply and the nutrition of other unstable centres sufficiently to produce in them an abeyance or an irritation of their functions.

I fail to see how any single explanation or hypothesis, whether psychic, physical, or vaso-motor, can apply to all the varied and manifold manifestations of hysteria. On the other hand, I am convinced that the supreme importance of the rôle played by the vaso-motor system has been overlooked. In my belief it accounts, directly or indirectly, for the great majority of hysterical symptoms, perhaps it plays a part in all. As to how and why the sympathetic and vaso-motor systems initiate so many hysterical symptoms is a topic on which I have dwelt so much and so often that I need not discuss it further. Let me only refer to one point, the difficulty of accounting for the localisation and limitation of hysterical symptoms when they can clearly be traced (as in the case just narrated, for instance) to a disturbance localised to some definite spot in the nervous system. It is a difficulty which confronts the psychologists, a difficulty which Janet frankly admits and discusses. It is also a difficulty which had to be faced from my point of view of vaso-motor production and I have suggested[17] six possible localising factors. But is it not equally a difficulty to account for the localisation of gross vascular lesions which leave behind them a definite structural change? We think we know the reason why the lenticulo-striate artery should be the most common seat of hæmorrhage or embolism—because it is in the direct line of shock from the heart. But this is also the most common position for hysterical hemiplegia; why should not the same explanation obtain? I examined after death the brains of many old people who died in the Paddington Infirmary and found cerebral aneurysms, hæmorrhages, and embolisms occurring in hundreds of positions other than the usual lenticulo-striate artery; in one case, recorded by the late Dr. A. Hughes Bennet and myself,[18] a softening was limited precisely to the nucleus of one cranial (the third) nerve, but there was no evidence to show why it should be so localised. In these organic cases we seldom expect to learn what determined the locality of the lesion, but this does not affect our view as to their embolic or hæmorrhagic nature. Nor should it affect the main question as to *the nature* of hysterical lesions, which I am convinced in the great majority of cases is vaso-motor.

A Post-Graduate Lecture

ON

THE CLINICAL VALUE OF HÆMOMANOMETER OBSERVATIONS.

Delivered on Sept. 4th, 1908, in the University New Buildings, Edinburgh,

BY WILLIAM RUSSELL, M.D. EDIN., F.R.C.P. EDIN.,

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GENTLEMEN,—With the demonstration I have given you as an introduction[1] I would now remind you that arteries have two sets of movements. The first of these is *pulsatile movement*. This movement is the result of the volume of blood shot into the aorta by the left ventricle and of the elasticity of the arterial wall. The second is, however, the more important movement—it includes both *contraction and relaxation*. This movement the arteries have in virtue of their muscular coat. By means of that coat they can contract so much as greatly to diminish their lumen—almost if not quite to close it. That being so, the first question we ask is: How is this movement determined? And the first answer to that is, through the vaso-motor nervous mechanism. This is shown by the effect that emotion, for instance, has upon the circulation. But it is also indicated by the contraction of the arteries in one area when the vessels in another area are dilated. When, for instance, the vessels in the splanchnic area dilate and contain much blood the systemic arteries contract, and this, I presume, is determined through the medium of the vaso-motor nervous mechanism. It is probable, I think, that the arteries always contract when the volume of blood in them diminishes, and that such contraction is brought about through the nervous mechanism. It is, I think, specially these regulative adaptations of the circulation that are presided over by the vaso-motor nervous mechanism. You all know the predominant place given to this mechanism: we have indeed been taught that the movements of arteries are altogether determined by this nervous mechanism. You will look in vain for much definite reference to anything else.

I want, however, to draw your attention to another factor

[17] Clinical Journal, June 1st, 1904, p. 110.

[18] Brain: July, 1889, vol. xlv., p. 102.

[1] The lecture was introduced by a lantern demonstration illustrating the pathological changes which occur in arteries.

which I hold has been practically overlooked, and that is that *the arteries contract and relax in response to the composition of the blood*—in response to the direct influence on the vessel wall of various substances present in the blood. The pharmacological and physiological side of this is that various substances which we use in medicine—digitalis, ergot, adrenalin, and so forth—are known to have this direct action on the vessel wall when introduced into the circulation. That being so, I do not require to argue very strongly that other substances can have the same effect upon the arterial wall. If we find that under certain clinical conditions there is the same contraction of arteries as follows the giving of digitalis to a patient, we are entitled to assume that other substances than those the action of which has been determined experimentally have this particular effect. I cannot elaborate this question now, but merely state that there are certain conditions which are well known to us as physicians in which, I contend, this contraction of arteries is to be observed. Of these there is in the first place the retention of waste material in the circulation, substances which instead of being excreted are retained. These, I hold, irritate the vessel wall directly and lead to its contraction. Probably even an excess of nutritive material taken up from the intestine has this effect. Another condition which assuredly leads to this state of the arteries is the absorption of putrefactive products from the intestinal tract. These substances, whatever their chemistry may be and which are present in the blood, have the direct effect of stimulating the muscular tissue of the arterial wall to contract. There are special toxins which I only require to mention to convince you that substances present in the blood can have the effect indicated. Take syphilis and lead poisoning, the changes which ultimately take place in the vessels are the result of the prolonged action of a toxin in the blood. Kidney disease with its slow uræmia produces the same anatomical alterations. In all there is the muscular stimulation to begin with which goes on to such medial and intimal changes as I have shown on the screen. Tobacco and alcohol in many persons have the temporary effect of causing arterial contraction, and alcohol may certainly lead to permanent anatomical changes.

The next important fact is that not only normal vessels contract and relax but that thickened vessels retain the power of contracting under the stimulus of substances present in the blood. The slides I have shown you demonstrate that the muscular coat is hypertrophied and that the arteries are not the seat of a fibroid degeneration as has been so widely accepted from Gull and Sutton's teaching. The hypertrophy does not abolish muscle action in the arteries any more than it does in the heart. The sclerosed artery (using the term in the restricted sense in which I have advocated) can therefore tighten up and it can relax.

THE ESTIMATION OF ARTERIAL CONTRACTION.

The next question we ask is: How is this constriction of arteries to be judged of, and how is it to be estimated? In the examination of the pulse there are two important factors: the one is the pressure of the blood inside the vessel, the other is the thickness of the vessel wall. Now the pressure of the blood inside the vessel, *plus* the compressibility of the vessel wall itself, is determined by such an apparatus as I show you (Oliver's hæmomanometer). This bag surrounds the upper arm and is distended with air until the pulse wave is arrested in the brachial artery—until there is no longer any pulse felt at the wrist.

Now I do not propose, gentlemen, because it would take many hours probably, to give you all the proofs that I could give you that that statement is correct. I am afraid I must ask you to accept it from me that this instrument determines these two things—namely, the pressure of the blood and the resistance of the vessel wall, and in spite of all that has been written and all that has been said in recent years to the contrary I maintain this. I shall only remind you that we were all taught that the compressibility of the pulse depended in part, and often very largely, upon the compressibility of the vessel wall. That this should ever have been seriously questioned will soon be forgotten. The results obtained by an instrument like this must be greatly influenced by the changes in the arterial wall such as I have shown on the screen.

It follows that when the vessel walls are thickened you can only judge of the internal pressure by the fingers. There is no other way of separating the blood pressure from the thickness of the arterial wall. The limit of blood pressure is known, so that whenever there is a reading with the hæmomanometer above that limit it means that the vessel wall is thickened. Now this thickening of the vessel wall may be due to two factors. It may in the first place be due to the anatomical changes which I have shown to you. It may be due, on the other hand, to a contraction—a mere muscle contraction or spasm of the muscular coat. I need not elaborate this point to you. You realise that if the muscle coat of an artery contracts it thickens the wall and diminishes the lumen. You also know that it requires greater pressure to obliterate an artery the lumen of which has a diameter of an eighth of an inch than of a quarter of an inch, even if the wall be of equal thickness in each. This fact is of great importance, because the normal artery can tighten up in the way I have indicated to you so as almost to obliterate its lumen and to allow little blood to pass through it. But in many instances you have the two factors together—in many cases you have a vessel with permanent anatomical thickening *plus* the contraction or spasm of its media. No means in our hands can alter the permanently thickened arterial wall, but the element of spasm is quite within control. The importance of recognising that the sclerosed artery is not atheromatous, and is not the seat of such fibrosis as the clinician has often thought to be the case but of such changes as I have shown on the screen, is this, that the changes I have described permit of and explain the hypertonic contraction of thickened arteries.

The necessary outcome from the foregoing is that there is often a reading of the hæmomanometer which is quite within the limits of normal blood pressure, and yet does not indicate normal blood pressure but indicates a blood pressure much below normal inside a contracted artery. In other cases a reading is much above normal and yet the high reading is associated with a low internal pressure and a greatly thickened arterial wall.

Now, while all this is true the hæmomanometer is an instrument of really very great assistance when it is combined with the use of the finger, and combined with such a use of the finger as we have all acquired. You have to put out of your minds altogether the extraordinary contention that the finger is no longer of any use for feeling the pulse. This instrument is of great use when combined with reliance upon our fingers, for of course we can estimate the pressure of a flowing fluid inside a tube when a pulsatile wave is transmitted through the fluid, no matter what thickness the wall of the tube be. The error to which I have just referred has arisen partly in this way. The blood-pressurists always begin at the physiological starting point—that is to say, no matter what power the heart is showing the blood pressure is assumed to be 100–120. This conception, when reduced to plain terms means, that a heart doing a half or a third or a fourth of its normal work—and you know that many a heart does only a half, a third, or a fourth of its normal work—yet maintains a normal blood pressure. You appreciate how absurd such a proposition is to the clinical pathologist. I may give you a recent case to illustrate this. The case was that of a woman dying from malignant disease of the abdomen. She was constantly vomiting; for days she was unable to retain anything swallowed. The pulse was a mere flicker and the heart was steadily and slowly giving out, yet her brachial pressure was 95 mm. Hg and the normal is from 100 to 120. According to the people who hold that these readings give blood pressure this exhausted and feeble heart was maintaining a blood pressure some 10 mm. Hg below normal. The clinical pathological picture I form of such a condition is that the amount of blood in the arterial system has diminished—it has accumulated on the venous side—a very small amount being thrown into the aorta with each systole. As the quantity of blood in the arterial system diminishes the arteries contract—the brachial artery contracts—accommodating themselves to the diminished volume of blood. The thickening of the artery wall by such contraction is the factor which requires much the larger portion of the pressure of 95 mm. Hg necessary for the arrest of the pulse at the wrist. The foregoing is a mere outline to you of the propositions which I hold in connexion with the investigation of the circulation by means of the hæmomanometer.

There are many types of cases in which the phenomena which I have indicated may be noted and in which observations made by the finger *plus* hæmomanometer readings become of important value.

NEURASTHENIC TYPE.

The first type that I may mention—I can only indicate to you very briefly certain lines along which you can make observations for yourselves—is the neurasthenic type. I can best illustrate this by the case of a patient sent by a medical friend for advice and treatment.

The patient was a woman, 40 years of age, a neurasthenic. She was somewhat sallow, poorly nourished, and complained of languor and feebleness, of weakness and difficulty in performing even her domestic duties. She had been treated by tonics of various kinds. Her diet was of the ordinary mixed description and the intestinal evacuations were scanty and irregular. The pulse was small and feeble with a small tightened-up artery. The pressure was 115 mm. Hg. I regulated the diet and gave iodide of iron internally. Within a week she saw me again. She said she was quite well. The symptoms which had oppressed her were gone. She declared she had not been so well for years. The radial artery was a much bigger vessel and there was a fairly large wave in it. She had put on some 5 pounds of weight within the week. The brachial pressure had fallen to 105 mm. Hg. The hypertonus had been overcome and with that the pressure had fallen.

This case indicates to you the value of this instrument along with your finger. That little tightened-up radial artery was plain to me. Her pressure was normal, yet by still further lowering it she was relieved of all her symptoms. In a case such as this the condition is an auto-toxic one, the toxin in the blood irritating the vessels and causing their contraction. It is a condition you often find associated with neurasthenia—people who have nervous systems that are very susceptible to the toxins present in the blood. Those people have nervous systems asthenic to certain deleterious influences. Many are particularly susceptible to toxins coming from the digestive tract. By preventing the toxic absorption or favouring the toxic elimination you often enable the nervous system to battle successfully against its own inherent weakness.

ASTHMATIC TYPE.

Another type is the asthmatic type. In many asthmatics you will find the arteries tightened up during the asthmatic seizure and relaxing with the cessation of the seizure. These changes in the radial artery can be easily recognised by the finger, while the hæmomanometer shows that with the relaxation the pressure falls 30 to 40 mm. Hg. I regard this as a very important observation, for it suggests that in some asthmatics the paroxysms may arise not from spasm of the bronchi but from spasm of the pulmonary vessels corresponding to the spasm in the systemic vessels.

THE CARDIAC TYPE.

You have the same phenomena taking place in the arteries in patients with heart disease. In cases of heart weakness or of valvular lesion, if the systemic arteries tighten up you do not require me to argue that this throws a great strain upon the heart and leads to very serious embarrassment As a matter of fact, one frequently finds in persons with old-standing heart lesions that when they begin to have heart symptoms they result from this arterial constriction and that you relieve them at once with a vaso-dilator of some kind, and you can prevent recurrence by eliminating from the blood the substances which irritate the vessel wall. The myocardial cases—people with fatty heart—are the same. You cannot more assuredly kill people with fatty heart than by suddenly tightening up the arterial system.

The same is true of angina pectoris. The great majority of cases of angina pectoris are cases where during the paroxysm the whole arterial system gets tightened up. One of the last cases I saw had a pressure of 140 mm. Hg. I did not see the patient in an attack, but from the history given to me by her medical adviser I was satisfied that it was a case of angina pectoris. The medical attendant was fortunate enough to see the patient in an attack and found that the pressure was 190. He promptly administered a vaso-dilator, with the result that the pressure fell to 140 and she was relieved. The frequency of the attacks was rapidly lessened by appropriate treatment. Cases of this kind one could multiply but it is unnecessary. All that I want to indicate is that you have these vascular phenomena in angina pectoris. I do not say that there is no attack of angina pectoris without this contraction of systemic vessels. It is almost certain, I think, that such vessel contraction may be confined to the coronary arteries, but such a local spasm would equally account for the anginous paroxysm.

DIGESTIVE TYPE.

This is one of the commonest types. The vessel constriction may be due to constipation or to some particular dietetic substance. The effects vary greatly in different individuals. In some the effects are marked and the sustained or repeated tightening causes permanent structural change. On this digestive side let me indicate how undesirable it is to get faddy about these things. I know a gentleman who has cured his hypertonus by giving up drinking tea. It does not follow that either you or I require to do likewise, for it has not that effect upon me. There are people who, because they are poisoned by some special food or fluid, think that their poison must be poison to everyone. I say this because I do not want any one of you to suppose that I am a faddist. I am only a faddist to this extent—I am sure that there are many people who cannot do what you or I can do, and that if they want relief from their symptoms they must abandon certain things—whether it be tobacco, alcohol, or free proteid feeding. There is no doubt there are marked idiosyncrasies in the matter of diet, and these assert themselves the more as life advances. We meet it amongst navvies as well as amongst the higher classes. I am not sure that I did not see a case of this kind lately. A young man aged 25 years was brought to see me. His medical attendant was dissatisfied with him. His arteries appeared to be thickened and nothing could be found to account for his condition. His pressure was 220 mm. Hg. I had not seen anything like this except in granular kidney. There was, and had been, no albumin; there was nothing in the eyes to show that the kidneys were effected, but his pressure was 220 and his vessels were somewhat thickened. I took a gloomy view of the case, but advised that he ought to be taken home, kept in bed, and nourished almost entirely on milk. I saw him four weeks later and the pressure was down to 135 and since then it has fallen to normal. I have left it as a problem for his medical man to find out—whether his patient had not an idiosyncrasy to all red flesh foods. I can say nothing more definite upon this unusual case; but I am prepared for the most extraordinary idiosyncrasies. The practical point is that if you can influence the pressure by rest and diet you may depend upon it that the future of your patient is in your hands. The future of that patient lies with his medical attendant. Had the condition been wrongly interpreted it would assuredly have gone on to sclerosed vessels and granular kidney.

RENAL TYPE.

Next there is the renal type. I need not say much to you about this type. I have shown you the changes in the arteries and in the kidneys. In this type the hæmomanometer reading often varies from 240 to 290 mm. Hg. The difference is not a variation in blood pressure but indicates a variation in the arterial wall. When the thick vessels contract the hæmomanometer reading rises and as they relax it falls. This record by the hæmomanometer of the change in the vessel wall is most important if you accept my contention that the vessels tighten up under the direct influences of substances present in the blood, a rise in pressure in such a case warning you that your patient is in dangerous proximity to an attack of uræmia.

CEREBRAL TYPE.

Lastly there is the cerebral type. I do not know that there is any type more important than this type. It is most commonly seen in old or elderly people—people who no doubt very often have atheroma of the cerebral vessels. The cerebral type gives you many varieties of phenomena, excitement and delirium to apathy and semi-coma; temporary to permanent paralysis. The hæmomanometer and the finger combined can help you greatly in these cases. In many of them the changes affect the systemic vessels as well as the cerebral vessels. In the brain, when these thickened or atheromatous vessels tighten up, their lumen is diminished and there is a diminution of the blood-supply. If you use the finger and the hæmomanometer you will often be able to regulate these cases, if you recognise that you have to think of vessel thickening, as shown by the hæmomanometer, and of heart power as judged of by the finger on the artery. In many old people your finger tells you that there is a feebly acting heart in spite of

a high hæmomanometer reading, and that if you relax the arteries with the one hand you must encourage and help the heart with the other. You require a fairly strong heart to send the blood on after the vessels are relaxed. You will often prevent cerebral softening by properly appreciating these relations and often rapidly cure your hemiplegias. I have no hesitation in claiming that I have done that for people over and over again and we can all do it.

The subject I have brought before you is one full of interest. I have merely given you an outline sketch of it, but one I hope which will arouse your interest sufficiently to lead you to look into it further and satisfy yourselves that these things are true—that this action of the blood upon the vessel wall is a truth which we have ignored—why, it is not my business to inquire—and that the muscle-movement of the vessel wall has also been practically ignored. In these two observations lies the explanation of the production of arterio-sclerosis, confining that term to the medial and intimal changes which are the common anatomical changes in the thickened radial and other arteries so well known to the clinician. In conclusion, I have indicated to you that the hæmomanometer is of clinical value as giving you a record of the contraction and relaxation of the arterial wall rather than of the blood pressure. This interpretation will, I believe, soon come to be recognised as much more practically and clinically useful than the other.

AN INQUIRY CONCERNING THE ETIOLOGY OF BERI-BERI.

A PRELIMINARY COMMUNICATION.

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THE etiology of beri-beri has long been recognised as one of the most difficult problems in medicine and many hypotheses have been put forward to account for the obscure features in its epidemiology. Certain features of beri-beri long ago led observers to direct attention to rice as a possible source of the disease-producing agent. Professor Hirsch wrote of this suggestion in his "Handbuch der Historisch-geographischen Pathologie" (1883), quoting Malcolmsen (1835) and Kearney (1872).

An investigation carried out by Vorderman in 1895 and 1896 in the prisons of Java and Madoera, based on the conclusions of Eijkman from experimental work on fowls, showed that the incidence of beri-beri among the prisoners varied directly as did the amount of white rice in the diet. Among those dieted on red rice the incidence of beri-beri was 0·01 per 1000, among those on a mixture of red rice and white rice 2·4 per 1000, and among those on white rice 28 per 1000. The distinction between red and white rice is that in the case of the former but little of the spermoderm and perisperm is removed, whilst in the case of the latter the spermoderm and most of the perisperm are removed.

Braddon, from observations on the disease in the Federated Malay States, has drawn attention to the curious discrepancy in the incidence of beri-beri among the immigrant peoples of the Peninsula, the Chinese suffering severely and the Tamils very slightly. He believes that the disease is due to the consumption of stale white rice, the staple article of diet among the Chinese immigrants, and that the Tamils remain free from the disease so long as they consume only rice prepared in the Indian manner—that is, by parboiling before husking. A similar immunity from the disease enjoyed by Malays under primitive conditions he believes to be due to the fact that they consume only rice prepared from padi newly husked. Braddon has given the names "uncured," "cured," and "fresh" respectively to these forms of rice. He concludes that beri-beri is due to a specific fungus which, like that of toxic rye and lolium, is probably a parasite affecting the surface of the seed. This view of the etiology of beri-beri enunciated by Braddon constitutes, if correct, an important advance upon any of the hypotheses hitherto formulated which seek for the origin of the disease in food. He has dealt with the whole question in some detail in a recent publication, "The Cause and prevention of Beri-Beri."

The rice consumed by immigrant labourers in the Malay Peninsula is grown mainly in Siam, Burma, the Siamese Malay States, French Indo-China, and Province Wellesley. All classes, except the Tamils, prefer white rice; this is the "stale uncured rice" of Braddon and is the variety believed by him to be the source of the causative agent of beri-beri. White rice is imported as such from Siam and Burma or is prepared in the mills of Singapore and Penang from padi imported mainly from Siam, the Western Siamese States, and French Indo-China. In the preparation of this form of rice no preliminary treatment of the padi (unhusked rice) is required; it is milled by machinery and the husk, together with the pericarp and the surface layers of the seed, is removed. This rice is sold under the trade names of Siamese, Rangoon, and Saigon rice, terms which may indicate the country of origin of the grain but which, generally speaking, are only of commercial significance. All such rices are here referred to as "white rice"; we avoid the descriptive terms employed by Braddon as it has been held by some authorities that the use of these tends to prejudice the issues involved.

The Tamil labourer prefers a form of rice similar to that consumed by him in India and for its production a process analogous to the one in use in that country is employed in the mills here. Large concrete tanks are used in which the padi is placed and soaked in water for a period of from 24 to 48 hours. After this the padi is transferred to lightly covered cylinders and steamed for from five to ten minutes. Subsequently it is removed to open paved courts and dried by exposure to the sun. It is thereafter stored as padi or milled at once. This rice is of a yellowish colour, more or less translucent, and is here called parboiled rice (the "cured rice" of Braddon). Parboiled rice is imported from India and to a small extent from Sumatra (Asahan) but the bulk of that consumed in this country is prepared in the mills of Penang and Singapore from padi imported from Siam, the Western Siamese States, and French Indo-China. As compared with similar rices imported from India and Sumatra the local product has a peculiar disagreeable musty odour, the exact cause of which has not been determined.

The investigation hereinafter described was undertaken primarily to determine if, when other factors were excluded or controlled, people fed on white rice did develop beri-beri, and if people under exactly similar conditions but fed on parboiled rice did not develop the disease. It was hoped, also, that opportunity would be forthcoming for the investigation of other aspects of the question. At the outset it is necessary to state that the disease under investigation is that form of multiple peripheral neuritis known as beri-beri, which occurs endemically in this peninsula and the neighbouring islands. As much confusion has been caused by assigning this name to classes of cases differing widely in their clinical manifestations, it is desirable to make it clear that we seek only for an explanation of this disease as met with here.

For the purpose of the inquiry it was necessary to observe two parties of men under similar conditions as to environment, &c., and whose food-supply was definitely known. In view of the suggestion made by numerous observers that the disease may be bacterial or protozoal in origin, it was desirable that the places chosen should have been hitherto uninhabited or that no case of beri-beri should have occurred there for some time previously; further, the places should be in an isolated district sufficiently remote from towns or villages to exclude as far as possible the entrance of a supposed infection. Such a situation would also have the advantage, on account of the absence of shops, that the men under observation could not readily obtain food other than that supplied to them. It is obvious that the conditions required for such an investigation could not be secured in a public institution, as in all such in these States beri-beri is known to be endemic.

Various places were visited with a view to securing satisfactory conditions, and it was finally decided to carry on observations with regard to some 300 Javanese indentured labourers employed in the work of road construction in a remote part of the Jelebu district in the State of Negri Sembilan. The places in which they were at this time located, the fifty-first mile and the fifty-eighth mile from Seremban, were sufficiently remote from the nearest village or town for the purpose,

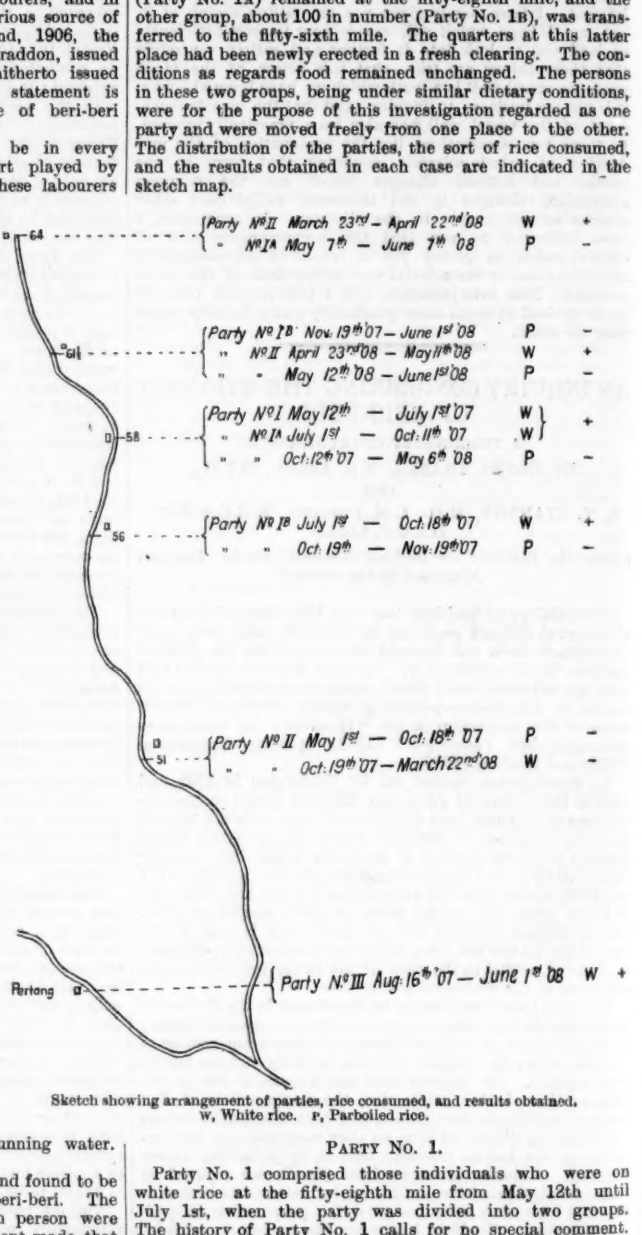
and Malay villages in the district were few in number and small in size. In connexion with these latter it should be remembered that abundant evidence exists to show that Malays in such situations do not suffer from beri-beri. Under the terms of the contract the rice issued to these labourers was supplied by the employer. It may be added that the Javanese prefer white rice, which is the kind consumed by them in their own country. In the early months of 1906 cases of beri-beri had occurred among these labourers, and in May, June, and July of that year it was a serious source of invaliding and mortality. From August 2nd, 1906, the employer, adopting the suggestion of Dr. Braddon, issued only parboiled instead of the white rice hitherto issued and thenceforward it is stated, and this statement is confirmed by the hospital records, no case of beri-beri appeared.

Here, then, the conditions seemed to be in every way suitable for an inquiry into the part played by rice in the causation of beri-beri, because these labourers without exception still desired to return to a white rice diet, and at this time the evidence of a connexion between the consumption of white rice and beri-beri was by no means convincing either to the general body of medical and scientific workers or to ourselves. The importance of reaching some conclusion regarding the origin of the disease cannot be over-estimated, as the number of its victims in this peninsula alone runs into many thousands annually. Throughout these States no labourers other than Tamils will consume parboiled rice unless compelled to do so, and while there was any doubt as to the harmful influence of white rice no effective measures could be taken for the suppression of beri-beri. By acceding to the wishes of the group of labourers comprised in this investigation opportunity would be afforded for a thorough testing of the position of dietary factors as causative agents. The labourers were therefore given the option of returning to a white rice diet after it had been fully explained to them that by so doing they ran the risk of contracting beri-beri. Without exception they chose the white rice, but as for the purpose of comparison two parties were required, half the number only were allowed this diet. It was hoped also that by continuous observation of a large party of men on a parboiled rice diet it might be determined whether, apart from its disagreeable musty odour, any grounds existed for the objections made to the consumption of this rice.

At the time the investigation was commenced, April, 1907, the labourers, about 300 in number, were divided into two parties of approximately equal numbers, the one party at the fifty-first mile and the other at the fifty-eighth mile. The clearings for the quarters had been made in virgin jungle and no case of beri-beri had occurred at either place. The quarters were well raised from the ground, the floors being made of split bamboo, the walls of bark, and the roof of light ataps; thus they were well ventilated. In all cases the lines were well drained and near running water. The sanitary conditions were good.

In April all the labourers were examined and found to be free from any sign of existing or recent beri-beri. The results of the physical examination of each person were recorded for future reference and an arrangement made that any person subsequently joining the parties should be carefully examined previously. An interval was allowed to elapse during which any latent case might be expected to develop and as all remained healthy white rice was issued to the party at the fifty-eighth mile for the first time on May 12th, the party at the fifty-first mile remaining on parboiled rice as before. The daily ration was as follows: rice, 21·3 ounces; dried fish, 4·25 ounces; onions, 1·75 ounces; potatoes, 1·75 ounces; cocoanut oil, 0·85 ounce; cocoanut, 1·50 ounces; tea, 0·12 ounce; and salt, 0·1 ounce.

The parties as originally formed are designated Party No. 1 at the fifty-eighth mile, Party No. 2 at the fifty-first mile, and Party No. 3 a small party at Pertang. On July 1st the requirements of the work necessitated the division of Party No. 1 into two groups. One group of approximately 50 (Party No. 1A) remained at the fifty-eighth mile, and the other group, about 100 in number (Party No. 1B), was transferred to the fifty-sixth mile. The quarters at this latter place had been newly erected in a fresh clearing. The conditions as regards food remained unchanged. The persons in these two groups, being under similar dietary conditions, were for the purpose of this investigation regarded as one party and were moved freely from one place to the other. The distribution of the parties, the sort of rice consumed, and the results obtained in each case are indicated in the sketch map.


64
Party No II March 23rd – April 22nd '08 W +
" No IA May 7th – June 7th '08 P –
61
Party No IB Nov. 19th '07 – June 1st '08 P –
" No II April 23rd '08 – May 11th '08 W +
" " May 12th '08 – June 1st '08 P –
58
Party No I May 12th – July 1st '07 W +
" No IA July 1st – Oct. 11th '07 W
" " Oct. 12th '07 – May 6th '08 P –
56
Party No IB July 1st – Oct. 18th '07 W +
" " Oct. 19th – Nov. 19th '07 P –
51
Party No II May 1st – Oct. 18th '07 P –
" " Oct. 19th '07 – March 22nd '08 W –
Pertang
Party No III Aug. 16th '07 – June 1st '08 W +

Sketch showing arrangement of parties, rice consumed, and results obtained. W, White rice. P, Parboiled rice.

PARTY NO. 1.

Party No. 1 comprised those individuals who were on white rice at the fifty-eighth mile from May 12th until July 1st, when the party was divided into two groups. The history of Party No. 1 calls for no special comment. No case of beri-beri occurred during the period May 12th to July 1st.

PARTY NO. 1A.

This party was formed on July 1st of those members of Party No. 1 who remained at the fifty-eighth mile. The members of it had for the most part been on white rice since May 12th; a few had joined after that date. The

first case of beri-beri occurred at the fifty-eighth mile on August 7th, the second case on August 19th, 12 days after the first case, and the third case on Sept. 3rd. These dates indicate the time of commencement of an indisposition which terminated in, or was followed by, definite signs of beri-beri; in nearly all cases this date is antecedent to the loss of the knee-jerk.

It is necessary to deal with these cases in the first instance from the point of view of infection. The first patient had been from May 12th continuously in residence at the fifty-eighth mile, as had also the second case. The third patient had been transferred from Party No. 1B (fifty-sixth mile) on August 23rd, and the peculiar manner in which he came in contact with the first two cases of beri-beri at the fifty-eighth mile, to which reference will presently be made, suggested the likelihood of his having acquired the disease by infection. The fourth case which developed on Sept. 6th had also been intimately associated with the first two patients.

Assuming an infection, the period of incubation from these cases may be fixed at from 10 to 15 days. While there is nothing in the histories of the first two cases to suggest any intimate association the third and fourth cases to develop were known to have been in intimate contact with the first two patients. The third patient on his transference to this party was inadvertently assigned quarters in the hospital, a partitioned-off part of the quarters, and the fourth patient had been in this hospital under treatment for malaria since August 23rd. As the first patient had been continuously in residence the question naturally arises as to how he acquired the infection. He is believed to have suffered from beri-beri about two years previously in Java, but no residual paralysis or sign other than diminished knee-jerks remained to support this history. Still, it might reasonably be suggested that he may either have had a relapse or have acquired an infection from without. In regard to the second of these possibilities it is necessary to consider the conditions in this party for 15 days preceding the development of the disease—that is, from July 22nd to August 7th. On July 22nd there were present in this party 28 individuals. During the interval under review three left the party and 10 joined, five of these from Party No. 1B at the fifty-sixth mile, four from Party No. 2 at the fifty-first mile, and one from hospital at Kuala Klawang, where he had been under treatment for pulmonary tuberculosis. Neither in Party No. 1B nor in Party No. 2 did any cases of beri-beri exist at this time. There is no evidence that the man from the hospital had ever had beri-beri previously and he had no signs of the disease on joining the party nor did he develop any signs later. He died some months afterwards from pulmonary tuberculosis. There is little doubt that while in hospital this man would be in contact with cases of beri-beri, and the only remaining explanation is that this person may have been the means of conveying the hypothetical infection though he did not himself suffer from the disease, or only suffered from it in such mild form as to be impossible of recognition clinically.

Granting that the deduction as to the period of incubation is erroneous and that this period is really longer, we shall deal with those who joined this party earlier than July 22nd and exclude the individuals joining from Parties No. 1B and No. 2, which were known to be free from beri-beri. One man joined the party from hospital on June 7th. He developed no signs of beri-beri. Another joined the party from hospital on May 20th and after a stay at the fifty-eighth mile subsequently joined Party No. 1B, returning to the fifty-eighth mile, and developed beri-beri there on Sept. 3rd. If he acquired the infection in hospital the period of incubation must be fixed at some four months. In any case we can scarcely accuse this man of having introduced the disease, as he did not develop it until a month after the first case. Another joined from hospital on May 20th and did not develop the disease. Another joined from Pertang on July 5th and more than three months later developed beri-beri. He had no signs of the disease when he joined. Another joined from hospital on June 7th and after a stay at the fifty-eighth mile joined Party No. 1B, afterwards returning to the fifty-eighth mile, from which place he was sent to hospital on Oct. 5th for treatment of an eye affection. Another joined the party from gaol on June 20th and shortly afterwards was transferred to Party No. 1B. He did not develop signs of beri-beri.

Thus in seeking for an origin of the hypothetical infection in this place we must conclude that it was conveyed by some person from without and who himself showed no signs, or that the period of incubation is more than three months. Any discussion as to the disease having originated *de novo* in the first case or that it was a relapse after two years' interval would be futile. The chances of infection having been introduced by persons not under observation, such as Malays or Chinamen passing along the road, are very remote indeed.

Dealing now with the question of food as a source of the disease, Party No. 1A was on white rice from May 12th until Oct. 11th. During this period 30 members of the party were on white rice for three months or longer and amongst these seven cases of beri-beri occurred. During the time that beri-beri was present at the fifty-eighth mile, August 7th to Oct. 11th, seven individuals joined the party, either from Party No. 2 or from hospital; there was no white rice issued at these places and none of these seven developed beri-beri, though they were exposed to the chances of an infection equally with the other members of the party. Of 13 individuals who came from Party No. 1B where white rice was being issued two subsequently contracted beri-beri. The results in this party therefore suggested the possibility that a diet of which white rice formed the staple was in some way concerned in the production of beri-beri.

PARTY NO. 1B.

The first case of beri-beri to develop in this party was in a patient who was taken ill on Sept. 29th. He had been in the party since its formation on July 1st and had been on white rice in all 141 days. The second case developed on Oct. 10th. This man had been on white rice for 152 days. The third, fourth, and fifth cases followed rapidly, the dates being Oct. 12th, 16th, and 18th. These cases had been on white rice for 154, 158, and 160 days respectively.

From the view-point of infection there is little to be said regarding this party. Such may easily have been introduced from Party No. 1A at the fifty-eighth mile, where the disease had broken out seven weeks previously. These two parties were located only two miles apart and on holidays, which occurred twice a month, very slight restraint was placed upon their movements, as for the primary purpose of this inquiry they were regarded as one party. The introductions from outside into this party were one man who returned from hospital on July 12th; another who joined Party No. 1 from gaol on June 22nd and was transferred to Party No. 1B on its formation on July 1st; five individuals who were transferred to this party from Party No. 1A on July 23rd, after which date no other transfers were made; and six people who were moved from Party No. 2 to this party. None of the individuals here referred to developed beri-beri.

It is proper to mention here that in determining whether a given case was to be admitted as a case of beri-beri the most rigid exclusion was practised. Only such cases as presented unequivocal signs of the disease were admitted. In every instance the diagnosis was based on the opinion of at least two medical men, in most instances on that of four. Where any doubt was cast upon the accuracy of the diagnosis such case was rejected. The result, therefore, is that, apart from the cases here recorded, there were many others which, in our opinion as well as in that of those associated with us in this inquiry, were really mild or obscure cases of the disease. The difficulties in this respect will be appreciated by those who have had to deal with the disease clinically. No such doubtful case was at any time observed among the people on parboiled rice and the inclusion of cases of this type occurring in the white rice parties in no way strengthens the case for an infectious origin of the disease.

By Oct. 11th seven cases had occurred in Party No. 1A and by Oct. 18th five cases in Party No. 1B. As there was apparently nothing further to be gained from a continuance of the white rice diet it was thought that the time was suitable by a change to parboiled rice to observe the effect of this alteration of diet upon the course of the outbreak. Accordingly parboiled rice was substituted for white rice in the diet of Party No. 1A on Oct. 12th and in that of Party No. 1B on Oct. 19th. After this change no case of beri-beri occurred in either party and such cases as showed signs suspicious of beri-beri rapidly got well. This abrupt cessation of the outbreak constitutes important evidence of a causative relationship between the consumption of white

rice and beri-beri. It is known that diseases of infectious origin do tend to die out abruptly and it is admitted that this cessation is not incompatible with a hypothesis of an infectious origin for the disease; it is possible that the cessation of the outbreak on the change of rice was merely a coincidence and that all the susceptible individuals had developed beri-beri.

PARTY NO. 2 (*May–October, 1907*).

This party, located at the fifty-first mile, was employed for purposes of comparison with the results in Parties No. 1A and No. 1B. At this place only parboiled rice had been issued since the quarters were first occupied in September, 1906. These conditions were continued till October, 1907, and the party was under observation from May to October. At one time or another 143 individuals were members of this party. Of these 112 were on parboiled rice continuously from May 1st until the date (August 7th) when beri-beri first appeared in Party No. 1A, and 89 remained on parboiled rice until the change to white rice on Oct. 19th. There were present in the party for at least three months 121, and there were present during the period August 7th–Oct. 19th 131.

During the period May 1st–Oct. 19th men left the party to go to hospital and some two or three were sent to gaol. The majority of these returned to the party on their recovery or release. Of such returns there were in all 25, 21 from hospital and four from gaol, who may be regarded as potential sources or carriers of an infection in contrast to 13 who joined Parties No. 1A and No. 1B during the same period. In addition, this party was located nearer a settlement than either Party No. 1A or Party No. 1B. It will thus appear that the chances for the introduction of a hypothetical infection were much greater in the case of the control Party No. 2 than in Parties No. 1A and No. 1B. Despite this preponderance of factors favouring the introduction of infection no case of beri-beri appeared in this group.

PARTY NO. 2 (*October, 1907–May, 1908*).

In view of the results obtained it was decided to reverse the conditions and to place this party, hitherto on parboiled rice, on white rice and to have Parties No. 1A and No. 1B henceforward on parboiled rice. This change was made in Party No. 2 on Oct. 19th, no other alteration, dietetic or otherwise, being made. The better to safeguard this party from infection it was decided that, so far as it was possible to do so, no one should be allowed to join the party from outside. All persons sent to hospital were on their return assigned to other parties. In consequence of this procedure the numbers of this party materially diminished during the course of the investigation and gradually it came to be a more or less selected partly only the more robust of its members remaining.

On Oct. 19th there were at the fifty-first mile 111 people, a number of whom left or were transferred soon after that date. The removal of the party from the fifty-first mile took place on March 22nd; they were therefore under observation at that place for 165 days. 58 of the party had been continuously present since Oct. 19th and one from Oct. 28th. Five men joined the party from hospital on Oct. 2nd and one joined on Oct. 28th. One other joined from hospital on Nov. 13th. Thenceforward, as already stated, no one was allowed to join this party. This period of 165 days at the fifty-first mile considerably exceeded the minimum interval which elapsed at either the fifty-sixth or the fifty-eighth mile between the first issue of white rice and the outbreak of beri-beri. 77 labourers were under observation for at least 90 days.

As the work of road construction had been completed at the fifty-first mile by March 22nd, the labourers, 54 in number, comprising the party on that date were transferred to new quarters at the sixty-fourth mile. These quarters had been erected about two months previously and had not been occupied. Between the old and new quarters the party was not exposed to any possible infection so far as is known. On April 9th a case of beri-beri occurred and at about the same time another case developed. Owing to the requirements of the work it was found necessary on April 23rd to transfer the remaining members of the party to quarters at the 61½ mile. These quarters had been occupied since Nov. 18th by Party No. 1 which comprised from 90 to 110 labourers and amongst whom no case of beri-beri had occurred since the change of rice on Oct. 11th and 19th. The two cases of beri-beri which had occurred at the sixty-fourth mile were, as soon as the diagnosis was established, transferred to quarters at 61½ mile in order to be more directly under medical care, and as the remainder of the party were transferred on the date mentioned it is clear that abundant opportunity was afforded by this movement for the transference of an infection if such had existed. When the change had been effected there were occupying the quarters at the 61½ mile 131 people, including 42 who had been, and were now, continued on white rice, and 85 who had been, and were now, continued on parboiled rice, besides four individuals who had been transferred from the sixty-fourth mile previous to April 23rd, two of them being cases of beri-beri and two suspected cases.

The food for the mixed party, other than the rice, was prepared in a common kitchen, the rices were prepared in separate kitchens and in order to be quite certain that the people on white rice were not given parboiled rice or *vice versâ* the food was issued to the parties at different hours. In all other respects the parties were under identical conditions.

On April 25th a third case of beri-beri developed. On May 1st a fourth developed and three others on May 10th, May 10th, and May 11th respectively.

Amongst the parboiled rice party, although carefully observed for possible cases of beri-beri, no signs were noted. If the disease is an infectious one it is difficult to explain the course of events, since in one party, comprising some 35 individuals, five cases of beri-beri occurred, while in the other party, comprising some 85 individuals under identical conditions, no sign of the disease appeared.

As regards the question of place infection the transference of the party from the sixty-fourth mile to the 61½ mile had no effect on the progress of the outbreak, and further to test the possibility of the quarters at the sixty-fourth mile being an infected place some 30 labourers who had been on parboiled rice at the fifty-eighth mile since Oct. 12th, and in whom no case of beri-beri had occurred since that date, were moved to these quarters on May 7th, and remained there for one month, a period exceeding by a fortnight the duration of residence of the white rice party in these quarters before the first case of beri-beri occurred. Save for the change of place the conditions, dietary, &c., remained unchanged, and no sign of beri-beri was observed among them.

On May 12th all the people remaining on white rice at the 61½ mile were changed to parboiled rice. After this date no case of beri-beri occurred.

From Oct. 19th to March 22nd this party (No. 2) was housed at the fifty-first mile and was on white rice. The history of the outbreaks of beri-beri at the fifty-eighth mile and the fifty-sixth mile had led us to believe that if the consumption of white rice were responsible for the disease an average period of about 125 days was required. This party was on white rice for 156 days and no sign of the disease had appeared. It is to be remembered, however, from the view-point of the dietary hypothesis, that, owing to the conditions which had been laid down, the party became eventually one composed of selected individuals who may be presumed to have been more resistant to the possible harmful influence of white rice.

As possibly further bearing upon the question of infection by one of the suggested modes—namely, through fæcal contamination—it may be noted that during the time the two parties were together at the 61½ mile a serious outbreak of amœbic dysentery occurred and that this disease showed no selective action on the parties but attacked members of both, eight cases occurring in the parboiled rice party and six cases in the white rice party.

On May 12th all the people remaining on white rice at the 61½ mile were changed to parboiled rice. After this date no case of beri-beri occurred.

PARTY NO. 1 (*October, 1907—May, 1908*).

This party, now composed of Parties No. 1A and No. 1B, subsequently to the change to parboiled rice was employed for comparison with the results in Party No. 2. In the case of Party No. 1A this change dates from Oct. 12th, and in the case of Party No. 1B from Oct. 19th. The party continued on parboiled rice until the end of the investigation in May, 1908. As has already been stated, no case of beri-beri occurred in either group composing the party subsequently to the change to parboiled rice.

On Oct. 19th there were eight cases of beri-beri in

the quarters at the fifty-eighth mile. They remained in this place until Nov. 3rd, when seven of them were sent to hospital; one, being then too ill to be moved, remained. Attention is called to this fact as bearing upon the question of infection as well as the influence of place. In these quarters seven cases of beri-beri had developed in eight weeks among an average population of about 30. There were now eight cases of beri-beri in different stages, an undoubted focus of infection if the disease were a communicable one, yet no further sign of the disease showed itself.

It may be that all the susceptible individuals in this party had by this time become affected and it may be suggested that this explains the cessation of the outbreak coincident with the change in diet. Against this stands the fact that on Nov. 1st 14 coolies, who had just arrived from Java, joined this party while the beri-beri patients were still at the fifty-eighth mile, and on Nov. 15th 22 more such coolies joined the party. It might have been expected that among these there would have been some who were susceptible.

A labourer who had developed the disease at Pertang (Party No. 3) on Dec. 28th had to be transferred to this party on Jan. 5th in order to be nearer medical care. As has been already mentioned, cases of beri-beri were also transferred to this party from Party No. 2 and cases of beri-beri continued to develop in Party No. 2 while occupying the same quarters as Party No. 1. No attempt was made to isolate such cases, in this respect following the universal custom in the treatment of beri-beri. It resulted in consequence that cases of beri-beri in all stages of development were in contact with healthy people, yet at no time was there any evidence that the disease could be communicated to an individual on parboiled rice. The party under review was a large one: 202 individuals were present in it at one time or other from October, 1907, to May, 1908, 156 of these being present for not less than three months and 108 for not less than six months. During this period 25 individuals returned from hospital and 21 joined the party from Party No. 3, Pertang. From time to time also some joined from Party No. 2. Thus it will be seen that in this large party there was abundant opportunity for the introduction of an infection, yet no sign suggestive of beri-beri was observed in any of its members.

PARTY NO. 3.

This was a small party in the employ of the same contractor at the village of Pertang. Only parboiled rice had been issued to the labourers on this estate from August 2nd, 1906, and there had been no case of beri-beri. From August 16th, 1907, white rice was issued and was continued till May 31st, 1908. The party was under observation from August 1st, 1907. The number of labourers remaining there continuously during this period was small—eight. The number on white rice continuously for at least three months was 36 and for at least six months the number was 12. One case of beri-beri only occurred at this place on Dec. 28th, 1907. The patient was transferred to Party No. 1 on Jan. 5th, 1908, and remained among them for seven days after he had developed the disease. Between Dec. 28th, 1907, and Jan. 5th, 1908, there were in all 30 people in this party. In addition, it should be stated that this party was much less isolated than the other parties under observation. As regards food, their proximity to a village rendered it easy for the men to obtain food other than that supplied to them. The white rice issued at this place was from the same stock as that supplied to Parties No. 1 and No. 2.

No special importance is attached to the results in this party, as, owing to its situation, there were many uncontrolled factors in operation.

Ankylostomiasis.

In view of the suggestion that has been made attributing to the presence of nematode worms in the intestine, particularly ankylostomes, a causative action in the production of beri-beri, examinations were made to determine what proportion of the labourers under observation harboured these parasites.

Total number of examinations	140
Percentage of all examinations in which ova of ankylostomes were found	62·1
Total number of examinations of individuals who afterwards suffered from beri-beri	19
Percentage of these in which ova of ankylostomes were found	63·2

The percentage of persons harbouring ankylostomes among those who suffered from beri-beri was therefore practically the same as the percentage among the whole population under observation. The number of examinations is admittedly too small to be conclusive on the point, but the results indicate that ankylostomes play no part in the causation of beri-beri.

Blood Examinations.

Upwards of a thousand of these examinations were made and systematic observations on the blood of the beri-beri patients failed to reveal, by the staining methods employed, the presence of any organism likely to have a causal relationship to the disease. During the period of slight pyrexia which commonly preceded the onset of definite signs of beri-beri malaria parasites were found in the blood on several occasions. In such cases it may be that the attack of malaria precipitated the onset of beri-beri or *vice versâ*.

An attempt was made, by taking blood films from a number of persons, to obtain a series of films extending over some months preceding the onset of beri-beri in a given individual. The choice of individuals was not fortunate, however, and the most that was obtained was that in one case the series extended over a week preceding the onset of beri-beri. In this case no parasites were found.

Results and Conclusions.

Twenty cases of beri-beri occurred among 220 people on white rice. No case occurred among 273 people on parboiled rice and under similar conditions to those which obtained in the white rice parties at the time beri-beri was prevalent among them.

Since all cases presenting equivocal signs of the disease were excluded we are of opinion that there were many other cases which in the ordinary routine of clinical practice would have been regarded as beri-beri. Such cases only occurred among people who consumed white rice.

No case of beri-beri occurred in any coolie who had been on white rice for a less period than 87 days.

Systematic examinations were made of the blood and urine of patients suffering from beri-beri. Various methods of staining were employed but in no instance were any organisms found, except those well known as the causative agents of other diseases.

In the course of the inquiry patients in various stages of beri-beri were at times in contact with parties of men on parboiled rice. The results of observations made on such occasions furnished evidence that the disease is not a directly communicable one.

Removal of patients suffering from beri-beri from one place to another did not influence the progress of the disease and removal of entire parties from the place where the disease had occurred did not influence the progress of the outbreak so long as they continued on white rice. These experiments suggest, although they do not prove, that place *per se* or considered as a nidus of infection has no influence upon the development of beri-beri.

In three instances in which definite outbreaks of beri-beri occurred among parties on white rice substitution of parboiled rice was followed by a cessation of the outbreaks.

No evidence was obtained to show that any article of food other than rice was a possible source of a causative agent of the disease.

Ankylostomes and other nematode worms were not found in a larger proportion of patients suffering from beri-beri than in the general population under observation.

The general results lend support to the view that the disease beri-beri as it occurs in this Peninsula has, if not its origin in, at least an intimate relationship with the consumption of white rice and justify further research along these lines.

The detailed results of this inquiry will form the subject of a study from the institute which will be issued shortly.

Kuala Lumpur.

ROYAL FREE HOSPITAL.—By permission of the Lord Mayor the annual meeting of the friends and supporters of the Royal Free Hospital, Gray's Inn-road, will be held at the Mansion House on March 10th next at 3 P.M., when the claims of the hospital for increased public support will be advocated. During the past year there were 2213 in-patients and 36,358 out-patients, casualties, and maternity cases. The total attendances of patients during the year was 101,241.

AN INTERESTING CASE OF MULTIPLE RETROPERITONEAL HYDATID CYSTS.

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HYDATID disease is rare in Egypt; so rare, indeed, that in a note published in the *Intercolonial Medical Journal of Australasia* of March 20th, 1904, I quoted figures showing that, in an experience of 7000 cases in hospital practice and in the post-mortem room, the incidence of hydatid was only 1 per 1000. When it *does* occur, however, it not infrequently develops in unusual situations. In confirmation of this statement I would like to make a somewhat detailed reference to the following case of retroperitoneal infection which presented several features of gynæcological as well as of surgical interest. My first introduction to this patient, a young Egyptian woman, was on Oct. 4th, 1899, when she presented herself at Kasr-el-Ainy Hospital to be treated for prolapse of the uterus. Abdominal hysteropexy was advised and on opening the abdomen through the linea alba an elongated tense swelling was found in the substance of the broad ligament behind and to the right of the uterus. The uterus having been pulled up out of the pelvis by a volsellum forceps, an incision was made over the swelling, after protecting the surrounding area with gauze, and a clear fluid containing a number of minute hydatid cysts was evacuated. The whole of the mother cyst and its adventitious capsule of connective tissue was then completely removed and the divided broad ligament was restored by a continuous suture. Finally, though it was hardly necessary now that the cause of the prolapse had been removed, abdominal hysteropexy was performed. On the patient's discharge from hospital three weeks later the uterus was found to be in good position and no further swelling could be detected in either broad ligament.[1]

On Jan. 12th, 1904, the patient was again admitted with a very hard rounded lump in the right lower abdomen. Not being able to trace her previous history for the moment we thought we had to deal with a uterine fibroid; but on opening the abdomen through the right rectus sheath a thick-walled hydatid cyst completely covered by peritoneum was found to the right of the site of the original cyst. This second cyst was much larger than the first and was adherent to the adjacent coils of intestine and to the appendix by recent peritonitic adhesions. These having been separated the entire cyst was removed and a pedicle of connective tissue which ran down deep into the pelvis was ligatured off. The divided posterior layer of peritoneum was sutured and the abdominal wall was closed in layers. At this operation it was noticed that the uterus was well fixed by a short, strong, fibrous adhesion to the old scar in the anterior abdominal wall, a very satisfactory result nearly five years after the hysteropexy. After this, as was the case with the first operation, convalescence was uninterrupted by any complication and we saw no more of the patient until the end of 1907, when she returned with a hard rounded swelling in the right iliac and lumbar regions. The scars of the two former operations were quite small and the abdominal wall had firmly healed. Dr. R. S. Dobbin, under whose care she was now admitted, was good enough to ask me to operate, and on Dec. 9th, 1907, an incision was made in the right semilunar line and the abdomen again opened through the outer edge of the rectus sheath. We at once came upon a retroperitoneal tumour which was pushing the cæcum in front of it towards the abdominal incision. The appendix was tightly stretched across the top of the tumour and was removed between ligatures. The peritoneum over the mass was opened up and a thick-walled calcified hydatid cyst was removed. On further exploration a still larger lobulated mass of cysts of similar character was exposed and taken away, together with a few yellow calcified hydatid deposits on the meso-colon. It was evident that there was now a commencing general infection of the peritoneum, as several of these small hydatid tubercles were seen on the serous coat of the intestines and on the mesentery in the neighbourhood of the incision.

Fourteen days after this third operation it was noticed that the abdomen was gradually increasing in size. At first sight this appeared to be due to free fluid in the peritoneal cavity, but on careful examination a cystic swelling could be made out on the right side, apparently extending from the pelvis up as far as the umbilicus, or even higher, and a harder, more circumscribed mass in the left lumbar region, feeling not unlike a displaced kidney. (The urine contained no albumin, and 1500 cubic centimetres were passed in the 24 hours.) The patient complained mainly of pain over the lower ribs on each side and oppression in her breathing. As the swelling showed no signs of decreasing in size an exploratory laparotomy was done on Jan. 11th, 1908, and the abdomen was opened for the fourth time by a long incision in the right rectus sheath ending below in the scar of the third operation. The transverse colon was seen to be pushed downwards and the ascending colon inwards by a large retroperitoneal cyst. On incising the posterior parietal peritoneum this cyst was found to extend nearly to the brim of the pelvis below and passed upwards out of sight behind the right lobe of the liver. Its lower connexions in the retroperitoneal connective tissue space were fairly easily separated though the cyst extended well beyond the middle line and filled the whole right lumbar region. It then ran upwards behind the liver, over the right kidney, and finally (after evacuating its contents) it was found to be firmly attached on the front of the spinal column to the crura of the diaphragm. Here strong fibrous bands had to be ligatured off before the cyst could be removed. Laterally the cyst spread on to the dome of the diaphragm on the right side and in the substance of this muscle were imbedded two separate thick-walled cysts full of daughter cysts. To effect the removal of these smaller cysts the pleural cavity had to be opened and considerable difficulty was experienced in delivering the upper end of the main cyst as well as in enucleating the outlying groups in the diaphragm. At one point the cyst had formed a firm attachment, about two inches broad, with the lower edge of the right lobe of the liver, probably due to adhesions between the peritoneum covering the cyst and that covering the liver. So firm was this adhesion that the liver substance had to be cut through to liberate it and catgut sutures had to be inserted to control the resulting hæmorrhage from the cut surface. The mass on the left side was found to be composed of numerous cysts in the gastro-colic and gastro-splenic omentum. These were removed, as also several other cysts of varying size in the mesentery. Many gritty tubercles were seen on the serous lining of the small intestines and throughout the mesentery. The pleural cavity was then shut off from the abdomen by sutures and a drainage tube was inserted on to the upper surface of the restored diaphragm through the seventh intercostal space. A free counter opening was made posteriorly below the border of the ribs and a tube was inserted into the space from which the main body of the cyst had been removed. The posterior parietal peritoneum was restored as completely as possible and the whole abdomen was freely irrigated with normal saline solution. Finally, a large glass drainage-tube was placed in Douglas's pouch and secured in the lower end of the abdominal incision which was then carefully closed in layers. On subsequent examination the main cyst was found to be filled to distension with a dark brownish-yellow fluid in which floated the softened remains of numerous large hydatids. Floating also on the surface of the fluid and visible even through the cyst wall were many large globules of bright red pigment exactly like red iodide of mercury in colour which on subsequent investigation by Professor W. H. Wilson proved to be pure hæmatoidin. Unfortunately, the operation for the removal of this enormous cyst took such a long time and involved so much manipulation in the splanchnic area that in spite of all our efforts the patient died a few hours afterwards.

The post-mortem examination by Professor A. R. Ferguson, besides confirming the anatomical relations of the cyst already described, showed that the right lobe of the liver was very much atrophied from pressure of the cyst; indeed, it consisted mainly of a mass of fibrous tissue. The left lobe was enormously enlarged by compensatory hypertrophy and filled the whole of the left subdiaphragmatic area, flattening out the spleen beneath it. The substance of the spleen was

[1] Records of the Cairo School of Medicine, vol. i., 1901.

much softened. The right kidney was long and thin and almost flattened out of existence by the weight of the superincumbent cyst. The uterus was somewhat enlarged and its fundus was closely adherent to the anterior abdominal wall in the old median incision. A piece of small intestine was fixed to this adhesion in its whole length and several other knuckles of bowel were adherent by small bands around the median scar. The rest of the necropsy presented no special features of interest. Thus the fundus of the uterus had remained attached to the anterior abdominal wall without any stretching of the scar for more than eight years. It seems likely that the large cyst had been lying comparatively empty along the front of the spinal column for some time, and its relatively sudden enlargement was due, in all probability, to the occurrence of suppuration within it.

Though the native Egyptian lives with his animals a great deal the rarity of hydatid disease may be understood by quoting a paragraph from the note on the subject to which reference has already been made as follows: "Professor Looss has never found the tænia echinococcus in a stray dog in and about Cairo but discovered it once in a small pet-dog. It is possible that in the villages the dogs may harbour tænia, though there is but little chance of their being infected with the disease, as no slaughtering of animals affected with the disease in the cysticercus form takes place. Very little meat is eaten by the country people and the only killing for food is done at the abattoirs. Even should a pariah dog become infected by eating cysts from cattle or sheep he is so shy and wild that man runs very little risk of infection from him. He is the great scavenger of the village and is never fondled or made a pet of in any way. The larval stage of the tænia echinococcus is occasionally met with in sheep and goats and is exceedingly common in cattle and camels. This localisation to the herbivora is common in all countries in which the disease is found."[2]

Cairo.

ON THE ANATOMICAL VARIETIES AND THEIR BEARING ON THE TREATMENT OF PATHOLOGICAL CONDITIONS OF THE PALATINE TONSILS.

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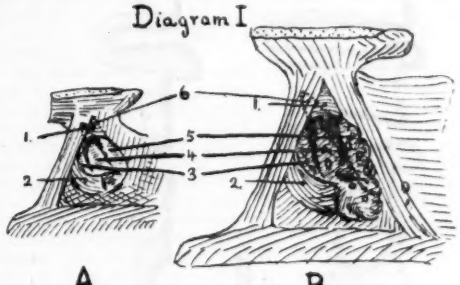
THE palatine tonsils present several well-marked anatomical varieties and embryonic remains. As these are easily to be recognised in many cases, even in pathological tonsils, and have an important bearing upon treatment, the following short account of the varieties commonly met with and an explanation of their causation from embryological and comparative anatomical data has been written. The tonsil is developed in the second cleft recess during the fourth month of fœtal life, the faucial pillars between which it lies representing portions of the second and third branchial arches. The hypoblastic recess opens into the pharynx as a funnel-shaped cavity with widely open mouth and terminates under cover of the soft palate as a narrow canal—the supratonsillar fossa. On the outer wall of this hypoblastic tube the tonsil is developed. According to Gulland the lymphoid tissue is developed directly from the hypoblastic cells and not, as was previously thought, from mesoblastic cells growing round the tube. The outlet of the tube is narrowed by two triangular folds of mucous membrane. One of these stretches between the pillars in the angle formed by their junction with the soft palate. This is known as the plica semilunaris. A second fold stretches backwards from the anterior pillar of the fauces. It has a free crescentic margin behind and at its lower part is attached to the tonsil. This is known as the plica triangularis.

In the human fœtus of four months the tonsil appears as an oval mass which is divided into an anterior and a posterior portion by a ridge. This ridge rises up as an evagination from the floor of the mass with a groove on either side of it. Lymphoid tissue is developed at the bottom of each groove round multiple diverticula from the hypoblast lining it. At birth the lymphoid tissue has extended to the surface on each side of the grooves and also over the intervening ridge. The tonsil at birth consists of three tonsillar masses with two furrows between them. These furrows, which are the remains of the cavities of the anterior and posterior tonsillar sacs, are directed upwards and forwards towards the supratonsillar fossa. The middle tonsillar mass consists of the ridge with the adjacent lips of the anterior and posterior tonsillar sacs. The anterior and posterior masses consist of the lymphoid tissue in front of and behind the grooves respectively.

Diagram I



A. Tonsil of seven months fœtus. B. Tonsil of four years old child. 1. Plica semilunaris. 2. Plica triangularis. 3, 4, 5. Anterior, middle, and posterior tonsillar masses. 6. Dotted line showing position of supratonsillar fossa.

The plica triangularis blends with the middle tonsillar mass and as it does so it divides into two. One portion passes toward the side of the tongue, while the other cuts across the middle mass, dividing it into an upper and a lower portion. These two folds are known respectively as the plica prætonsillaris and plica infratonsillaris (Killian). (See Diagram I., A.) The plica triangularis persists in a large number of cases in the adult. After birth the tonsils proliferate unevenly, so that the lymphoid tissue may project from anterior or posterior tonsil sac and the grooves be obliterated, or one or the other of the tonsillar masses may be developed out of proportion to the other and form the main tonsillar mass.

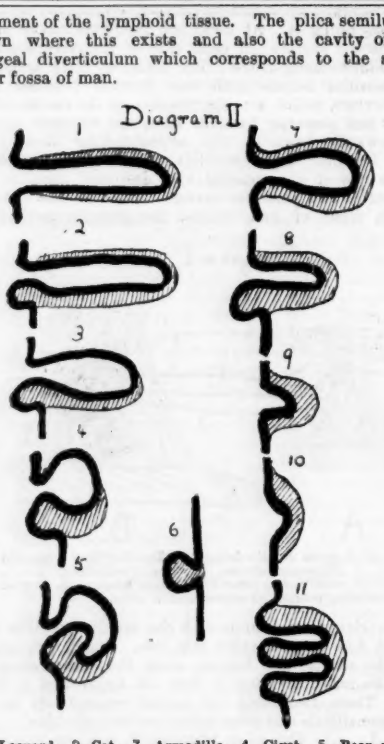
The supratonsillar fossa persists in a large proportion, if not in all cases, as a narrow passage extending in an upward and slightly forward direction under cover of the soft palate for 1–2 centimetres, the plica semilunaris remaining as its inner wall. (See Diagram I., B.) The crypts of the tonsils represent the original budding out of the hypoblast from the lining wall of the diverticulum round which the lymphoid tissue is developed. They originally opened into the grooves which represent the cavities of the anterior and posterior cups, but during the process of lymphoid proliferation these grooves are obliterated to a greater or lesser extent, so that the crypts open on the free surface of the tonsillar mass. In man some of the crypts open into the supratonsillar fossa. This is to be explained by the fact that in many animals the channel which in man is represented by the supratonsillar fossa is completely surrounded by lymphoid tissue.

In addition to the main tonsil there are accessory lymphoid nodules, of which the most constant are a number of scattered lymphoid masses which pass from the main tonsil towards the side of the tongue. They are interspersed among the mass of mucous glands and tongue papillæ, and the combined mass reaches to the mid-line of the tongue, in front of the epiglottis, and meets its fellow of the other side. This mass I call the lingual prolongation. In some cases there are lymphoid follicles on the deep surface of the plica triangularis and in others they may be found on its pharyngeal aspect. (See Diagram IV., D 1.)

Owing to the courtesy of Dr. P. Chalmers Mitchell, secretary, and Mr. F. E. Beddard, prosector, of the Zoological Society, I have been able to examine the pharynges of 100 species of mammals which came to the post-mortem table at the prosectorium of the society. The tonsils of mammals present a very interesting evolutionary series. They show many of the stages which can be seen in its development in the human embryo. The following diagrams (Diagram II.), which are drawn from sections through the long axis of a series of mammalian tonsils, illustrate the distribution and

[2] A Note on the Rarity of Hydatid Disease in Egypt, Intercolonial Medical Journal of Australasia, March 20th, 1904.

arrangement of the lymphoid tissue. The plica semilunaris is shown where this exists and also the cavity of the pharyngeal diverticulum which corresponds to the supratonsillar fossa of man.

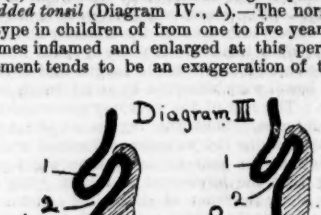


1. Leopard. 2. Cat. 3. Armadillo. 4. Civet. 5. Bear and dog. 6. Kinkajou. 7. Lemur. 8. Rhesus. 9. Capuchin. 10. Marmoset. 11. Sheep. The thick line represents the mucous membrane of the diverticulum. The shaded portion is lymphoid tissue. The cavity where this exists represents the supratonsillar fossa of man.

From the above diagrams it will be seen that in the leopard the tonsil is an elongated tube with lymphoid tissue developed evenly from its walls round a central channel. In the cat the tonsil is of similar form, but the lymphoid tissue is more marked on the outer or lower wall. In the armadillo and civet it is the outer wall alone on which lymphoid tissue is developed. In the bear and dog the tonsil is limited to the outlet of the sac. In the kinkajou there is no diverticulum and consequently no supratonsillar fossa, the tonsil projecting free on the pharyngeal wall. In the capuchin, rhesus, and marmoset monkeys the tonsil is not elongated as in the carnivores but approximates more to the globular human type. The tonsil of a young gorilla (not figured) could not be distinguished from that of a young baby. In a bonnet monkey I examined the tonsil showed human characteristics and had a very well developed plica triangularis covering two-thirds of the tonsil. The herbivores have globular imbedded tonsils which show a ridge dividing anterior from posterior tonsillar cups as in the human fœtus.

The above account of the development of the human tonsil is substantially the same as that of Killian. I have been able to confirm his researches from the microscopic sections and preparations of human and mammalian tonsils prepared by Mr. H. G. Butterfield and myself. In infants and small children the tonsils are deeply imbedded structures due to proliferation in the deeper parts of the tonsillar mass. As life goes on and the lymphoid tissue (which is most active in the early years of life) atrophies they assume a flattened form. Should inflammation occur the tonsils may fail to diminish in size or become enlarged. This enlargement may take place in the deeper portion of the tonsil or on the surface, or the enlargement may be principally confined to one or other of the masses. In a series of 1000 pathological tonsils examined by me in living subjects and also in the post-mortem room, from the point of view of classification, the following clinical types were recognised: (1) the imbedded tonsil; (2) the projecting tonsil; (3) the flat tonsil; (4) the hanging tonsil; (5) tonsils with preponderance of anterior, middle, or posterior masses, or of a combination of these; and (6) the tonsil with marked lingual prolongation.

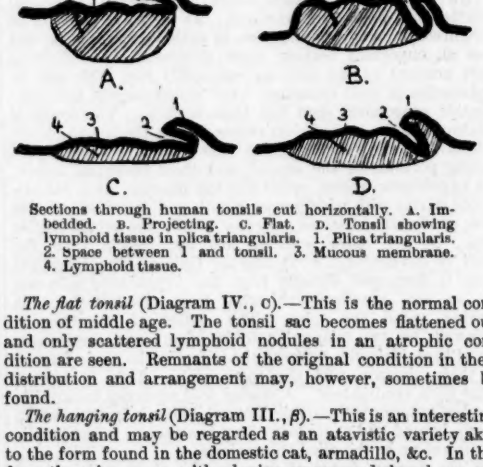
The imbedded tonsil (Diagram IV., A).—The normal tonsil is of this type in children of from one to five years. If the tonsil becomes inflamed and enlarged at this period of life the enlargement tends to be an exaggeration of the normal



α. Section through normal tonsil. β Section through hanging tonsil. These sections are cut through the long axis of the supratonsillar fossa as in the mammals (cp. Diagram II.). 1. Plica semilunaris. 2. Supratonsillar fossa. 3. Mucous membrane. 4. Lymphoid tissue.

form. Clinically it may be demonstrated by making the patient retch, when two globular swellings reaching under cover of the soft palate are to be seen. They may reach nearly to the uvula and the anterior pillars of the fauces are stretched over their convexities. There is little lymphoid tissue projecting into the pharynx from between the pillars of the fauces, although there may be proliferation in the outlet of the sac as well, so that this form is combined with the next—the projecting tonsil.

The projecting tonsil (Diagram IV., B).—In this form there is a marked projection of the tonsil into the pharynx due to proliferation of lymphoid tissue at the outlet of the sac. The proliferation usually consists of the middle mass or of the middle and anterior masses, the furrow between them becoming obliterated.



Sections through human tonsils cut horizontally. A. Imbedded. B. Projecting. C. Flat. D. Tonsil showing lymphoid tissue in plica triangularis. 1. Plica triangularis. 2. Space between 1 and tonsil. 3. Mucous membrane. 4. Lymphoid tissue.

The flat tonsil (Diagram IV., C).—This is the normal condition of middle age. The tonsil sac becomes flattened out and only scattered lymphoid nodules in an atrophic condition are seen. Remnants of the original condition in their distribution and arrangement may, however, sometimes be found.

The hanging tonsil (Diagram III., β).—This is an interesting condition and may be regarded as an atavistic variety akin to the form found in the domestic cat, armadillo, &c. In this form there is a mass with sloping upper and sharply curved lower surface, projecting downwards and backwards into the pharynx from the lower part of the interfaucial space. The overhanging may be so marked as to make the tonsil appear almost pedunculated. The mass is often cut off from the rest of the tonsil by a persistent plica infratonsillaris.

Tonsils with marked preponderance of one or more of the masses.—Those with enlargement of the anterior or middle

masses have already been dealt with under projecting tonsils. I have found that the posterior mass is especially liable to become enlarged when a tonsil, the subject of enlargement in its other parts, has been removed by the guillotine during the early years of life, while the tonsil is still in a state of activity.

The tonsil with marked lingual prolongation.—The lingual prolongation may take part in a general tonsillar enlargement or may be enlarged when the rest of the tonsil is not conspicuous.

With regard to the anatomy of the tonsils in relation to the treatment of their pathological conditions the following points are of special importance. The supratonsillar fossa may form a resting place for a foreign body or calcareous particles, such as are found in the crypts. Feelings of discomfort on swallowing and pricking sensations are then noticed by the patient. If the plica semilunaris is retracted by a bent probe the foreign body can be seen and dislodged. In one case of mine a portion of fish bone was imbedded in the wall of the fossa and was only dislodged when the plica semilunaris was pulled aside. In a paper by Paterson the connexion between the fossa and peritonsillar abscess was clearly demonstrated. The supratonsillar fossa forms a convenient nidus for bacteria and pus may sometimes be squeezed out of it. It can easily be seen that should there be pus whose free outlet from the fossa is prevented because the opening is occluded by inflamed tonsil, the capsule which is here the only barrier between its cavity and the alveolar tissue space will give way and pus burrow in the pericapsular space.

With regard to the bearing which their anatomical varieties have on the technique of the successful removal of the tonsils it must be recognised: First, that the size of a tonsil is no criterion for the necessity for surgical interference. Sepsis, not size, is the determining factor. Hence it may be necessary to remove tonsils which are not enlarged. Secondly, the fact that the tonsil does not project from between the pillars is no proof that there is not a large tonsillar mass, as it may be deeply imbedded. Thirdly, that especially during the earlier years of life there seems to be a remarkable capacity of proliferation in any portion of tonsil left. With this reservation, that in a few cases there may be such proliferation after the operation, it may be said that the removal of projecting or hanging tonsils (and also in some cases of imbedded ones) by means of the guillotine is usually successful. I speak of this method when used by one thoroughly accustomed to, and much practised in, the use of the instrument.

When using the guillotine it is necessary to dislocate the tonsil with its capsule from between the pillars of the fauces and also from areolar tissue which separates it from the superior constrictor. This is accomplished by traction by a volsellum or by pressure from without by a finger on the neck and by pressure on the pillars, especially the posterior, with the ring of the guillotine; at the same time the blade is made to cut through the reflection of mucous membrane between the anterior pillar and tonsil and then to enter the areolar space outside the capsule. For this reason I prefer a blunt to a sharp blade, as the latter is more likely to cut through the deeper portion of the tonsil than to push its way between capsule and constrictor.

The plica triangularis if well developed may form an obstacle to the successful use of the guillotine, as it spreads out over the anterior portion of the tonsil and narrows the outlet of the tonsillar space. The outlet of the tube is in this case between the free edge of the plica and the posterior pillar instead of being between the anterior and posterior pillars. The blade of the guillotine has to cut through the attachment of plica to anterior pillar before getting outside the capsule and this difficulty is increased if, as sometimes happens, the tonsillar tissue extends on to the plica triangularis. If a small portion of tonsil and capsule is left at the deepest part of the interfaucial space it usually forms a slough and disappears or else becomes fibrotic and gives no further trouble, but in some cases, as above mentioned, a renewed hypertrophy follows. Another complication which may occur is for the remains of lymphoid tissue, bound down and surrounded by fibrous bands, to continue to form a nucleus for infection. Many cases of recurrent sore throats after the operation are due to this cause. The posterior tonsillar mass is often left behind, as the guillotine is likely to cut through the capsule at this point, and it may subsequently hypertrophy or become inflamed. The lingual prolongation is usually left behind in removal of the tonsil by the guillotine, and I have seen subsequent attacks of tonsillitis in this portion after removal of the main tonsillar mass.

In order to prevent the above sequelæ it has been recommended by some authorities to curette the remains of the tonsils after the use of the guillotine by a sharp spoon or the finger; but here again, as I have emphasised above, scraping off lymphoid tissue from the capsule without completely removing the latter does not insure success. Subsequent use of punch forceps or cautery has the same objection. I have had cases both in children and adults where these had been employed on several occasions after the use of the guillotine and in which infective lymphoid remains bound down in a mass of cicatrix caused as much trouble to the patient as the intact tonsils had done before the first operation.

The ideal method of removal is undoubtedly enucleation and this is especially the case in the imbedded tonsils of young children. In this operation the areolar tissue space outside the capsule is entered and the gland shelled out together with the lingual prolongation, with which the latter is continuous. There is then no possibility of recurrence. The bleeding is a negligible quantity if the anæsthesia is good, and in any circumstances far less than when the guillotine is used, as the vessels are severed where they enter the capsule and are thus able to retract. The condition of the throat, in children at any rate, is no worse than after other methods, nor does the healing take an appreciably longer time, while the after results are infinitely better. The use of the snare, although it effects a partial enucleation, is not so satisfactory as the complete radical operation because the lingual prolongation is not removed by this method. It is unnecessary for me to describe the technique or details of the result of the operation, as Mr. G. E. Waugh, under whom I learnt and first practised the operation in the aural department of the Hospital for Sick Children, Great Ormond-street, has an admirable account of enucleation, with an exhaustive analysis of a large series of cases, which is now in the press.

Wimpole-street, W.

THE ETIOLOGY OF THE PSORIATIC AND ALLIED CONDITIONS.[1]

BY MARTIN JOSEPH CHEVERS, L.R.C.S., L.R.C.P. IREL.

WITH reference to the etiology of psoriasis there are still three theories—the "parasitic," the "light hunger," and the "neuropathic"; which is the one we are to accept? I have treated many cases of the psoriatic condition and I believe it to have a neuropathic origin, resulting in a denutrition and structural destruction of the epidermis, an exfoliation of the epidermis and dried leucocytes, brought about by a drying and shrivelling up of the epidermis for want of its necessary nutriment which it obtains by imbibition from the derma; now this condition of blood hunger is, I believe, in turn brought about by a defective general nervous system showing itself in the first instance by giving way of their weakest portion—namely, the very fine cutaneous trophic nerves and interference with the fine capillary circulation in the derma, loss of tone in these capillaries allowing of their compression by the abundant elastic fibres of the corium and the unstriped muscle fibres of its superficial layers resulting in an interrupted blood-supply to the derma and serous exudation beneath the epidermis. In individuals whose epidermis resists rupture sufficiently long to allow of a drying up of this exudation you get exfoliated epidermis plus dry leucocytes—in other words, the psoriatic condition.

The Malpighian layer of epidermis is supplied with small nerve fibrils which are affected when the general nervous system is deficient; these delicate nerve fibres of the epidermis would with very slight disturbance be likely to become completely functionless, resulting in a drying away of the epidermis as a whole, which effect is assisted by the interposition between it and the cutis vera of the dried

[1] An excerpt from an address delivered before the Manchester Medical Society.

exudation. Why should psoriasis occur on the skin of the dorsal surfaces and most marked on the thickest portion of these as the knee and elbow? Because the thicker the epidermis the less the number of fibres, as is evidenced by the reduced sensation in these situations, and consequently the easier to disturb the function and life of the epidermis by lessening its power of procuring its nutrition from the corium, blood-supply to the latter being curtailed by the general atonicity of the nervous system. Again, the more frequent over-stretching, owing to flexion of the limbs, of the skin of the extensor aspects tends to interfere more with the dorsal blood-supply resulting in a psoriatic condition. Now why should psoriasis be more evidenced in the cold seasons and in cold countries? This is, I think, easy to account for from the fact that to those so predisposed their nervous systems are more liable to suffer when there is a diminished sunlight combined with the disturbance and over-taxation of the skin functions by the sudden chilling and very often as sudden application of warmth to the surface rendering their fine terminal nerve endings more liable to loss of function; also can be taken into account the friction of woollen garments which act as a continual irritation to those with weak nervous systems and so the nerve terminals again suffer. Why the negro race are exempt from psoriasis can be accounted for by the fact that they spend the greater part of their lives out of doors and so possess better nervous systems, and nervous systems which are not subject to the heavy strain put upon those of the white races in their mad rush for progress. Why psoriasis does not occur in animals, being one of the few conditions found in human beings that cannot be exemplified in animals, can be explained also by their open-air life and the absence of circumstances which go to affect their nervous systems; and to be added to these reasons may be mentioned the fact of the better tone of their nerve terminals owing to lack of irritation due to sudden variations in surface temperature by their always wearing the same thickness of clothing—their hair only; nor have they the same alterations in their dorsal skin tensions as do man. That diseases, such as syphilis and gout, are liable to bring about the condition can be explained by the effect such troubles are known to have on the general nervous system. The absence of the psoriatic condition from the dorsum of the foot when manifest on the dorsum of the hand can be accounted for from the fact that there is little or no disturbance of circulation in the former situation owing to varied tension of skin; besides there is not in the case of the dorsum of the foot that thickness of epidermis with its paucity of nerve fibrils and diminished power of resistance. When psoriasis does appear in the foot it is, as you know, most frequently on the plantar aspect where the epidermis is thick; there are few nerve fibres and there is always a certain amount of disturbance of circulation from pressure. Then, again, psoriasis appears on the scalp, which can also be accounted for by its weakened circulation brought about by the sudden variations in temperature and irregular pressure caused by at one time wearing and at another time being without a head-gear, as well as a certain degree of atonicity of the nerve terminals brought about by shading off of sunlight and air by the use of covering when out of doors, the only time when full sunlight and fresh air are procurable. The tight stretching of the skin of the scalp over the bone may also be a contributory factor.

We know that psoriasis occurs frequently in miners and I think can be well attributed to the deteriorating influence the absence of sunlight and fresh air has on their nervous systems. A peculiarity about the psoriatic condition is that it is seldom seen on the face, although the face is so subject to vaso-motor disturbances by chilling of the surface and variations in temperature. Yes; but, on the other hand, the variations in tension of the skin and local pressure and friction are absent and it is not at one time covered and at another uncovered, or a lighter covering substituted for a heavier to suit the different climatic conditions. It is like the animals, always uncovered, so that the circulation in it has been trained more readily to adapt itself to variations in atmospheric and individual systemic changes. If the face does suffer, as I have seen it do, note that it picks out the very two spots that are most subject to variations in their blood-supply—namely, the malar prominences and the nose.

It is a significant fact also that psoriasis attacks the nails, which also at times suffer in nervous diseases and in neuritis. I have been quite lately attending a very neurotic female who whenever she gets a nerve storm, and the arrival of which is extremely well appreciated by her husband, her nails become furrowed, long furrows reaching to their extremities, and a crack occurs along the bed of each furrow. She states that these furrows sometimes have time to grow out to the end, being gradually pared away, leaving a quite smooth nail, before she gets another round which again furrows and cracks them. During these seizures she also gets her finger ends and the plantar aspect of her feet cracked, in fact, a typical eczema rimosa; she was in this condition during my last attendance. There were also hyperæsthetic and pruritic areas on the skin of her body, fleeting from one position to another. We also know that psoriasis proper does not occur in the mucous membranes, which fact can be attributed to the nerve endings therein being stronger and retaining their medulla.

The symmetry of a psoriatic eruption points towards an abnormal condition of the general system; and that in some cases the psoriasis disappears spontaneously points in the same direction. Now I contend that angio-neurotic œdema is only a different manifestation of a like condition and one in which there is moist exudation beneath the cutis vera, moist instead of dry being accounted for owing to the locality which the manifestation chooses to adopt, as it sometimes does in the less severe types of the complaint when it chooses spots where there is loose areolar tissue and the lax texture of the latter permits of exudation taking place sooner than it otherwise would and before reaching the epidermis. I also contend that pemphigus is a similar condition, or, rather, one with a similar etiology, but in its case the exudation happens to take place beneath a resistant epidermis in contrast to a non-resistant epidermis as in eczema, and in those whose capillary walls are very permeable and who probably have a low blood coagulability. It must be remembered that there is a congenital difference in the permeability of the capillary walls and in the degree of coagulability of the blood, therefore the transudation of liquor sanguinis is more easily accomplished in some than in others and also varies in quantity; which facts, together with the variability in the skin elasticity of individuals, may go towards explaining why in the one individual there is the dry scaly variety, psoriasis, and in the other the moist exudative variety, eczema and pemphigus. To sum up the reasons why you have eczema in the one and psoriasis in the other, when I suppose them both to have the same etiology, depends on, first, the locality which the manifestation chooses to adopt, the lax flexor or the more tense extensor aspect; secondly, the individual peculiarity with respect to the permeability of the capillary walls, the degree of coagulability of the blood and the variability of skin elasticity; and it must be remembered that you can have either of these conditions present in the same individual at the same time.

That light rays and natural sun rays do in some cases remove psoriasis is a fact and one which in itself points towards a nervous etiology.

My attention has been drawn to the report on the International Dermatological Congress held at New York in September, 1907, in which Dr. Buckley of New York is reported as stating in his paper on "The Value of an Absolutely Vegetarian Diet in Psoriasis" that many facts point to psoriasis not being a purely local disease of the skin, although the character of the individual lesions strongly suggest a parasitic element in their production. Dr. H. Radcliffe Crocker at the same Congress said he did not consider the influence of diet to have such an effect on the condition as did an excessive use of alcohol, which statement clearly points towards a neuropathic theory. Dr. Neuberger also speaking emphasised the importance of trauma as an etiological factor. How can trauma have such an action if not through the nervous system?

Withington, Manchester.

THE CARDIFF INFIRMARY.—A sum of £3250 has been guaranteed up to the present towards an estimated needed total of £5000 for the Welsh pageant at Cardiff. Lord Aberdare has promised £100 conditionally upon any surplus being given to the Cardiff Infirmary.

TRANSPOSITION OF THE VISCERA OCCURRING IN BROTHERS.

BY LOUIS LOWENTHAL, M.D. CHICAGO, M.R.C.S. ENG., L.R.C.P. LOND.

I REPORT the following two cases of transposition of the viscera not from the point of rarity of the anatomical condition, which in individual cases is not uncommon, but for the fact that reported cases of transposition occurring in more than one member of a family are exceedingly rare. I have been unable to find on perusing the literature of the subject a single recorded case of transposition of the thoracic and abdominal organs occurring in brothers and diagnosed during life.

On Oct. 9th, 1908, I saw a patient, aged 19 years, for slight bronchitis. During the course of examination I found the heart, the liver, and the stomach transposed. About a week later I had occasion to examine a brother of the patient, aged 21 years, and found a similar condition of transposition of the viscera to be present. The apex beat in both cases was between the fifth and sixth interspace in the right nipple line. There were no cardiac murmurs. Liver dulness in both extended from the fourth rib on the left side down to the costal margin; the lower edge of the liver was not palpable on deep inspiration. Tympanitic resonance corresponding to the stomach could be made out in the right hypochondriac and epigastric region. The spleen was not palpable.

FIG. 1.

CASE 1.—Transposition of the viscera, anterior view of the body. R, Right; L, Left side. The apex is seen in the right nipple line and the left diaphragm is higher than the right.

FIG. 2.

CASE 2.—Transposition of the viscera, anterior view of the body. R, Right; L, Left side. The apex is seen, as in Case 1, in the right nipple line, and the left diaphragm is higher than the right.

Further proof of the existence of complete transposition of the viscera was afforded by an x ray examination of the thorax and abdomen carried out by Dr. W. Ironside Bruce. Radiograms were taken in each case and these are here reproduced. In both the heart's opacity is plainly to be seen more prominent towards the right, the left diaphragm being placed higher in the thorax than the right. On examination of the abdomen with the fluorescent screen the liver could be seen on the left and the air space of the stomach could plainly be made out below the right diaphragm.

Both young men were of slender build and with the exception of an attack of pneumonia 14 years ago in the first patient and occasional bronchial catarrh since they have always been quite well. I could find no evidence of organic disease. Both patients are right-handed. As to the family history, they were the only children; the mother had died at the age of 46 years from pleurisy and the father at 56 years from cardiac failure. Whether either parent was the subject of transposition of the viscera could not be ascertained.

Highbury New Park, N.

A CASE OF SPONTANEOUS PULSATING EXOPHTHALMOS.

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AND
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PULSATING exophthalmos is in itself a rare condition and is usually due to an injury either in the nature of a fall involving the head or to direct traumatism *vid* the orbit. It almost invariably occurs on the right side; a bilateral case has been reported.[1] These traumatic cases are usually due to the internal carotid artery being ruptured and communicating with the cavernous sinus. Spontaneous cases must be of extreme rarity. Wilder[2] reports a case very similar to the one we are reporting. These spontaneous cases are all probably due to arterial degeneration caused by syphilis or atheroma leading to ulceration and rupture of the artery.[3]

The case which we have to report is that of a young woman, aged 24 years, who was married six years ago. Her husband died from pulmonary tuberculosis. She has one child living, aged four years, and has had no other children and no miscarriages. The patient is pale, of small build, and fairly well nourished. She had anæmia six years ago and at the age of 12 years had something wrong with her left knee for which she had to wear a plaster case. No history or signs of syphilis can be obtained. Her work is of quite a light nature. She presented herself at the out-patient department of the Birmingham and Midland Eye Hospital on Jan. 25th, 1907, and gave the following history. Two days previously she had had pains round her right eye and had heard noises in her head. She was at work at the time when, about 10 A.M., the headache came on suddenly accompanied by noises in the head. The noises were loudest then but they subsided somewhat subsequently, though they were constantly present. She remained at work all day and there was nothing wrong with her eye. She went to work on the next day and at about 3.30 P.M. she was sick and the noise in her head became louder. It was then that her right eye became prominent. There was no pain. Her sight was bad but it improved afterwards. She went home to bed. She was sick several times. On the next morning she noticed that she had a black eye but the right eye did not seem so prominent and she was sure that her sight was better. She had no diplopia then. She was admitted as an in-patient under Mr. Henry Eales to whom we are indebted for permission to publish this case.

On admission the physical signs were as follows. The right eye was proptosed considerably. There were subcutaneous and subconjunctival ecchymoses. The former was limited strictly by the margins of the orbit and the latter obscured the whole of the sclera. There was visible pulsation, the eye coming forward at each systole. A distinct double bruit could be heard over the eyeball. The systole was most marked. The spot of maximum intensity of the bruits was midway between the right external canthus and the right external auditory meatus, and at this place they had a distinct cavernous quality. At the angle of the jaw the first bruit was rough, loud, long, and non-musical; whereas the second was softer, shorter, and distinctly musical. These bruits were conducted along the great vessels of the neck and at the base of the neck just above the right sterno-clavicular articulation both murmurs could be heard on deep pressure and both were decidedly musical. There was visible pulsation in the whole of the right side of the neck along the great vessels. The bruits could be heard more or less all over the skull. They could not be heard below the upper part of the sternum. Pressure on the right common carotid stopped the noises so far as the patient could tell, but they remained audible with the stethoscope. The movements of the right eyeball were not in any way impaired. The pupils reacted well and normally and were equal. There was no anæsthesia or impairment of the sensation of the right cornea.

R.V. = $\frac{6}{36}$ c. − 1·50 D. sph. ⊂ + 3·0 D. cyl. @ 180° = $\frac{6}{12}$.
L.V. = $\frac{6}{36}$ c. − 2·0 D. sph. = $\frac{6}{12}$.

The patient had never worn glasses. The veins of the right fundus were a little distended and showed a jerky pulsation. There was no definite change in the left fundus. The apex of the heart was displaced outwards and lay behind the fifth rib. The second aortic and pulmonary sounds were augmented. There were no murmurs. There was some pulsation in the episternal notch. The radial pulses were synchronous. The blood was examined; there was no anæmia; hæmoglobin, 90 per cent.; red corpuscles, 5,100,000. There were no signs of arterial disease and the urine was normal. The patient was put to bed and was kept on low diet and given iodide of potassium in increasing doses.

The subsequent history of the case was as follows. During the first few days in hospital the patient was much distressed by the noises in the head and was unable to get any sleep. On Jan. 31st she had pain in the head and she complained of the noises becoming faster. There was limitation of the external movement of the right eyeball and to a slight extent of the internal also. On Feb. 5th there was definite enlargement of the episcleral vessels. The right retinal arteries were small and empty; the veins pulsated on the disc but were certainly not engorged. On Feb. 15th there was definite pulsation at the inner canthus of the right eye and on the 18th some swelling of the upper lid. This was followed a few days later by swelling of the lower lid also. During the next few days the fulness of the orbit and the swelling of the lids became more marked and the eyeball was more proptosed. The epibulbar veins showed more engorgement. The right optic disc appeared to be a little pale. On the 24th the patient complained of diplopia for the first time. There was definite limitation of movement upwards, outwards, and inwards. The congestion of the lids had increased. They were of a dusky hue and a distended pulsating vessel could be felt in the upper lid near the inner angle. The globe was displaced downwards. On March 4th the proptosis was more marked. The eye could not be moved outwards beyond the middle line and inward movement was limited. There was no impairment of upward or downward movement. The upper lid was much more swollen. The pulsation of the globe remained the same. A pulsating vessel with a definite thrill could be felt just beneath the inner half of the orbital margin above. The episcleral vessels were much distended over the lower half of the globe. There was peri-orbital swelling limited above by the eyebrows, extending below to the labio-nasal fold and outwards towards the ear for quite one and a half inches from the nose. The double murmur was most intense over the globe, both murmurs being musical. These bruits were conducted down the great vessels in the neck to the sternum. The pupil reactions were normal. The right optic disc showed some pallor; the veins were distended and showed slight pulsation; the arteries were small and empty.

On March 6th the patient was transferred to the General Hospital, Birmingham, under the care of one of us (W. F. H.) and on the 9th the right common carotid artery was ligatured at the level of the cricoid cartilage. At the time of the operation the thyroid gland was found to be much enlarged. On the evening of the same day the proptosis and œdema were found to be less and the noises had nearly gone. On the next day the swelling of the lids was much less; the œdema and discolouration had nearly gone but the distended vessel in the upper lid was still present without the thrill. Pulsation of the globe could be felt very slightly indeed. The double murmur had given place to a systolic one only. The patient could still hear the noises but only slightly. No pulsation could be felt in the facial, temporal, and auriculo-temporal arteries on the right side. On the 16th the noises and murmurs had become worse and on the next day the double murmur was present again. Limitation of outward movement had remained since the operation, but all the other movements were good. One of us (B. H.), having seen a case of pulsating exophthalmos shown by Pritchard and Burghard at a meeting of the Ophthalmological Society of the United Kingdom,[4] which had become cured by

[1] Ophthalmic Review, vol. xx., p. 171.
[2] Ibid., vol. xvi., p. 247.
[3] Braunschweig: Klinische Monatsblätter für Augenheilkunde, Marz, 1905.
[4] Transactions of the Ophthalmological Society of the United Kingdom, vol. xxii., p. 184.

ligation of the angular vein after failure to cure by ligation of the common carotid, suggested that a similar operation should be tried in this case. On April 5th the right internal angular vein was tied. The noises were much less for three days afterwards and on the 17th the right eye was still prominent, but there was no thrill or pulsation. This operation was not followed by thrombosis of the cavernous sinus as in the case of Pritchard and Burghard referred to above.

Shortly after this the patient was transferred back to the Birmingham and Midland Eye Hospital and was kept in bed for three weeks. When she was readmitted her condition was as follows. There were still considerable proptosis and some pulsation of the globe. The upper lid contained distended tortuous veins and there were some large veins on the surface of the globe. The eye could only be abducted slightly beyond the middle line and there was diplopia. There were no other ocular palsies, the movements being good, the vision was $\frac{6}{6}$ with correction in each eye, and the fields were nearly full. The patient was again put on iodide of potassium which had been discontinued. Two months later (July 26th) the proptosis was much less and also the congestion of the lids. The right rectus remained paralysed and no pulsation could be felt in the globe or in the lid, and the patient felt much better. She had been attending as an out-patient since June. On Sept. 27th her condition was much the same. The bruits were less audible and could hardly be heard on the left side. When the right carotid was compressed above the site of ligature she said the noises stopped altogether, although they were slightly audible with a stethoscope. There appeared to be pulsation in the carotid above the site of ligature. In November the lids became very congested again and the pulsation more marked. She had commenced her work. She was again admitted for a rest and was kept in bed for two weeks, during which time she improved much. The present state of the patient is practically the same. The paralysis of the right external rectus remains and the globe pulsates. The swelling of the lids is variable. Hearing on the right side is defective though the patient has never noticed it. R.V. = $\frac{6}{6}$ with glass and the right fundus shows venous congestion. There is no definite change in the optic disc. There is pulsation in the neck above the site of ligation and pulsation in the facial, the temporal, and the posterior auricular arteries. The double murmur is still audible, but pressure in the neck causes it almost to disappear.

The exact diagnosis in the first place was uncertain, but the subsequent course of the case points to a communication between the internal carotid and the cavernous sinus, especially owing to the fact that the sixth nerve only was paralysed and that there was evidence of a considerable communication between the arterial and venous systems on the right side. Vomiting occurred in Canta's case [5] and is due no doubt to disarrangement of the intracranial circulation. It appears to be only a temporary symptom. The "black eye" was obviously due to a large intraorbital hæmorrhage, which may have been due to an engorged vein giving way. Mackay [6] mentions a large extravasation behind the globe, but there is no statement that there was a "black eye." The swelling of the lids and fulness of the orbit were due to venous congestion and consequent œdema which subsided considerably on pressure. There was, and still is, undoubted paralysis of the sixth nerve, but the impairment of movement in other directions seemed to be due to a mechanical cause—namely, many large and engorged veins, and this is borne out by the fact that the eye was displaced downwards for a while and also that when the congestion was reduced these limitations of movement disappeared. According to Wilder,[7] out of 105 cases 14 patients recovered spontaneously, four cases were permanently cured by compression of the carotid, and out of 87 cases treated by ligation of the carotid 22 patients were cured and 10 cases ended fatally. The methods which we have at our disposal for treating pulsating exophthalmos are as follows: (1) compression of the common carotid artery; (2) ligation of the common carotid or the internal carotid (Brewerton [8]); (3) ligation of the internal angular vein; (4) ligation of the carotid on the opposite side; and (5) subcutaneous injections of gelatin (Lancereaux).

Further note.—Since writing the above Dr. de Schweinitz and Dr. Holloway [9] have written an admirable monograph on pulsating exophthalmos. Out of 69 cases examined 13 are reported to have been spontaneous. Of the idiopathic or spontaneous cases 70 per cent. occurred in women and most of them in the fourth decade of life. In this monograph the authors speak well of the operation of ligation of the superior ophthalmic vein.

Parsons [10] in his recently published "Pathology of the Eye," referring to pulsating exophthalmos, mentions syphilis and muscular effort as etiological factors. Of 32 spontaneous cases 23 occurred in women and only six in men. The ratio is just the reverse for traumatic cases. He gives a considerable bibliography on this subject and, amongst others, refers to the analysis of 33 necropsies by Jack and Verhoeff.

In the *Ophthalmoscope* for April, 1908, a section was devoted to pulsating exophthalmos. In this is mentioned a case, under the care of Cantonnet and Cerise, of spontaneous arterio-venous aneurysm in a woman, aged 80 years, who suffered from arterio-sclerosis. A case of Gifford is also mentioned which was cured by excision of a dilated orbital vein after ligation of the external and common carotid arteries had failed.

Our patient was last seen a few months ago when her condition was found to be unaltered. She still had pulsating exophthalmos quite marked, the proptosis varying from time to time. She was much depressed by her condition and was unable to undertake any work. Since then she has become an inmate of a local infirmary and we shall continue to keep her under observation.

Birmingham.

[5] Ophthalmic Review, vol. xvii., p. 376.
[6] Transactions of the Ophthalmological Society of the United Kingdom, vol. xxvii., p. 178.
[7] Ophthalmic Review, vol. xvi., p. 247.
[8] Ibid., vol. xxiv., p. 232.
[9] Pulsating Exophthalmos.
[10] Pathology of the Eye, vol. iv.

AN UNUSUAL (? INSTRUCTIVE) CASE OF APPENDICITIS.

BY FRED. J. SMITH, M.D. OXON., F.R.C.P. LOND.,
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I WILL commence with a bare recital of facts (*a*) of the illness, and (*b*) of the post-mortem examination, and add my comments as to the pathogeny of the case at the end.

The patient, a presumably healthy young medical man, went to bed on Saturday, Jan. 2nd, so far as he knew, in perfect health, but was awakened during the night by rather severe colic and diarrhœa; next day he took some castor oil and opium but the diarrhœa did not cease and headache of severe type added itself. He remained at home with a continuance of the symptoms and moderate pyrexia till Thursday the 7th, when he came to the hospital with a temperature of 103·5° F. and I was asked to see him. I found him looking rather ill but not remarkably so; his tongue was dirty, and diarrhœa was somewhat profuse, which with the headache and pyrexia made me rather suspect typhoid fever. The examination of the abdomen was almost negative; it was quite natural to the feel, the muscles were in no degree tense or resistant, pain on palpation was of the very slightest, in fact, nothing but the ordinary slight tenderness all over which might be due to severe diarrhœa, and specifically there was an entire absence of any local increase of it anywhere. I may also emphasise the point that I tested for unusual sensitiveness of the skin over the appendix region (as one naturally wished to exclude appendicitis), with an entirely negative result; the spleen could not be felt, but as there were one or two suspicious-looking spots I ventured a provisional diagnosis of typhoid fever and treated him as such. On the next day (Friday the 8th), about 4 P.M., I was asked to see him somewhat urgently as he was in a rigor with a temperature of 104·6°. On the subsidence of this I again examined the abdomen most carefully and this time I did succeed in finding on deep palpation some pain and tenderness in the gall-bladder region but still so slight and requiring such deep pressure for its elicitation that I could not attribute any importance to it as suggesting an abscess or any accessible surgical focus, but I did so far lay stress on it as to alter my diagnosis from typhoid fever to pyle-phlebitis arising from some form of ptomaine or food

poisoning. During the evening of Friday the 8th, and early on Saturday the 9th, he had a succession of very severe rigors, and as soon as practicable I got Dr. W. Bulloch and Dr. P. N. Panton to examine his blood to see whether microscopy or bacteriology could throw any light on the matter and give us a line for treatment. Leucocytosis was not present. Widal's test for typhoid fever was negative and no micro-organisms could be isolated from the blood. On Sunday the 10th he seemed a good deal better and I had hopes that matters might be quietening down. (In view of the post-mortem examination I omit reference to treatment which could scarcely have had any effect.) However, on Sunday evening he again was seized with rigors and matters seemed as bad as ever. I should say that on Saturday Mr. J. Sherren saw the patient with a view to the possibility of surgical interference but he, like myself, could find no reasonable grounds for operating; in fact, he could not see any guidance as to what to aim at if he did operate. On Monday Dr. Percy Kidd saw the patient with me, but again with the same negative result. So matters progressed till Friday the 15th; sometimes hope but more often despair was in our minds, but on the 15th the cloven hoof betrayed itself, if only I had had the wits to perceive it. I saw him about midday with a normal temperature but complaining of an intense pain that had suddenly seized him at the root of the penis, of all places in the world, and also of a feeling of distension of the stomach and an inclination to vomit (he had previously shown no tendency to vomiting—in fact, not even a trace of nausea all through the illness). The pain naturally made me examine his pelvic region with great care, but I could find nothing—no hardness of the bulb, no tenderness nor redness of the skin, and still no pain on palpating the lower abdomen. Per rectum Douglas's pouch could be recognised, but there was no elasticity nor tension about it; it might have been filled with small gut. Mr. Sherren again examined him, but again he could find nothing to lead him to believe that a laparotomy could help. The pulse by now had suddenly begun to fail and I feared he would die before evening; however, he did not die till Sunday morning, but during the last 40 hours the final illness was undoubtedly acute general purulent peritonitis, constant violently propulsive vomiting, and increasing hardness and distension of the abdomen.

The patient's parents as well as myself were naturally anxious to have the cause of his illness and death cleared up; accordingly Dr. H. M. Turnbull and I did a limited post-mortem examination on the next day, when we found as was certain acute general purulent peritonitis; we found, too, its cause in the appendix. The condition of that organ and the tissues behind it (it was running directly inwards to the brim of the pelvis and closely attached by adhesions to the back of the iliac fossa) was somewhat peculiar. The appendix itself was black and gangrenous but still retained so much of its natural structure as to suggest that the gangrene was quite recent; the terminal portion was swollen and dilated, and there were one or two quite small perforations in it still detectable with a probe. The tissues behind it were black, but the colour seemed more to be due to altered extravasated blood rather than to gangrenous changes. We found in the liver three rather large distinct abscesses of about the size of golf-balls, with greenish slimy contents, not true pus, and also a pathological ante-mortem clot in one of the larger branches of the portal vein. Having cleared up the mystery we did not investigate further, except to verify the fact of pleurisy at the left base detected in the last day of his illness by Dr. R. Hutchison, who kindly saw him then for me in my unavoidable absence.

Remarks.—How easy it is to be wise after the event. The post-mortem examination cleared up in absolutely most astounding fashion the whole case and enabled us to see the exact sequence of events with the utmost precision as follows. On Jan. 2nd there obviously occurred acute inflammation in the appendix. In the following four or five days this slowly extended instead of subsiding, until about the fifth day (it may have been earlier, as the patient may have had slight rigors at home, but the point is immaterial in the light of events, though very material in the light of "might have been") it found its way into a small radicle of the portal vein and thus let loose some septic microbe into that vein, which microbe in turn went up to the liver and started a focus there. For the next week the forces of evil slowly got the better of the fight in the appendix, while in the liver they rapidly gained the ascendant. By the thirteenth day or a little earlier the local appendical trouble reached and burst through the peritoneum and started the last final picture of acute perforative peritonitis.

What is not made clear by the necropsy is the extraordinary manner in which the case failed to show the usual clinical signs and features by which we have learnt to diagnose the site and nature of such cases, and suggests the reflection that such signs and features are in reality only due to implication of the peritoneum covering the appendix, and may not be found when only the interior mucous and submucous coats are involved. It is true that I diagnosed the pyle-phlebitis which was actually present, but this rather hindered than assisted me in deciding to ask for surgical assistance, for one usually takes that trouble to be inevitably fatal and not to be assisted by surgery. Again, I cannot call to mind a case of appendicitis in which pyle-phlebitis has been definitely present as a diagnosable condition by itself, and in fact I believe its occurrence anyhow with appendicitis is rare.[1]

A point of melancholy interest is the "might have been." When was the latest moment that a correct diagnosis and prompt surgical intervention could have saved this valuable life? Beyond any question an operation in the first 24 hours would have saved it, but I think the first rigor certainly put up a notice "too late." But are we to open the abdomen of all those who are seized with colic and diarrhœa? It is a practical impossibility and I fear such sad cases as the above must still occur from time to time, the very record of which, however, may serve a useful purpose and possibly save an occasional life.

Harley-street, W.

A NOTE ON A CASE OF "LEATHER-BOTTLE" STOMACH.

BY JOHN LIONEL STRETTON, L.R.C.P. LOND., M.R.C.S. ENG.,

SENIOR SURGEON TO THE KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

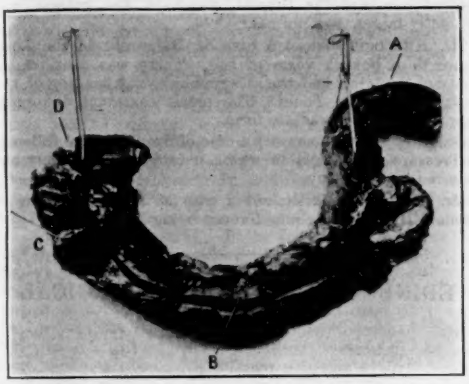
THE subject of this condition was a married woman aged 56 years. She was admitted to the Kidderminster Infirmary on Sept. 18th, 1908, suffering from dysphagia. She stated that she had been quite well and able to take ordinary food up to the end of June; she then commenced to vomit and had great difficulty in swallowing. The condition rapidly became worse and she lost a considerable amount of flesh. The vomiting occurred immediately after food and consisted of whatever she had taken. She did not attempt to swallow anything but fluids and the act caused her evident discomfort; the fluid immediately regurgitated. There had never been any blood in the vomit. She complained of a continuous aching pain under the ensiform cartilage, which was increased after taking nourishment and after vomiting. She was evidently wasted but her condition was not one of emaciation. She had previously been stout. Examination of her organs did not discover anything. The urine was of specific gravity 1020 and did not contain any abnormal constituent. The bowels had not moved since the end of June. Examination of the abdomen did not reveal anything. Œsophageal bougies could not be introduced into the stomach. The smallest size was arrested at a distance of 16 inches from the teeth.

The case was regarded as one of malignant disease of the lower end of the œsophagus and it was decided to perform a gastrostomy. The operation was performed on Sept. 22nd under ether anæsthesia. A vertical incision was made through the left rectus. On opening the abdomen the stomach was found to be lying under the liver. When pulled down it was found to be very much contracted and its coats hard and thickened. The only portion which could be brought outside the abdomen was the pyloric end, and this allowed a gastrostomy after Franks's method to be performed. The patient bore the operation well. The stomach

[1] Dr. Turnbull and I searched our records in connexion with this point; we found that out of the cases in which pyle-phlebitis was found post mortem rather less than half the cases were associated with appendicitis and generalised purulent peritonitis, but in none of these was the condition diagnosed during life; it was, in fact, what may be termed an agonal condition. Out of some 100 cases of fatal appendicitis we were able to find only two associated with pyle-phlebitis. So far as they go, then, these statistical details support my view as to the inadvisability of invoking surgical aid under the circumstances.

was opened on the 25th and she was fed with liquid nourishment. On the 27th the bowels acted naturally after an interval of nearly three months. She was taking plenty of nourishment by the wound and she was now able to drink small quantities of water (half an ounce) without any discomfort. On the 30th she was up; she looked and felt much better. Her improvement continued and she was to have returned home on Oct. 13th, but on that day she commenced to be drowsy. This condition gradually increased and by the 23rd she was comatose and she died on the 25th.

The post-mortem examination was made on the following day. The stomach was found to be very much contracted. It was removed together with the lower end of the œsophagus and the pylorus. The other organs were all healthy and the œsophagus above the point of division did not present any stricture. The stomach is shown in the accompanying illustration. It measured from the cardiac to



A, The lower end of the œsophagus. B, Incision along the anterior surface. C, Probe passed into the gastrostomy opening. D, The pylorus.

the pyloric end seven inches. The thickness of its wall varied from a quarter to three-quarters of an inch. The cardiac opening was so contracted that it would with difficulty admit a No. 10 catheter. The gastrostomy opening had united perfectly. The total capacity of the stomach was one and a half ounces. A portion was sent to the Clinical Research Association for examination and the report was as follows: "The stomach wall is thickened by new fibrous tissue. In the centre of the section there is an area containing alveoli filled with epithelial cells. This probably represents a spheroidal celled carcinoma."

The diagnosis of this rare condition is exceedingly difficult. In the present instance the symptoms were those of œsophageal obstruction only and there was nothing to indicate the presence of disease in the stomach.

At the operation I had the choice of performing a gastrectomy, a gastrostomy, or an enterostomy. As the pyloric end of the stomach was easily brought out I chose the second of these methods, with the result that the patient obtained relief from her distressing symptoms.

Kidderminster.

THE SCHOOL MEDICAL OFFICER FOR CHELTENHAM.—At a meeting of the Cheltenham town council, held on Feb. 2nd, the question again came up of the appointment of Dr. J. H. Garrett (who is the "whole-time" medical officer of health of the town) by the education committee to the post of school medical officer at a salary of £50 per annum. It was stated that the approval of the health and education committee was carried only by the casting vote of the mayor as an *ex-officio* member and the council was asked to adopt that minute, although the chairman of the committee dissented. Considerable discussion followed and an amendment was moved to delete that particular minute. Eventually the amendment was lost by 12 to 11 and the minutes were adopted.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF ANÆSTHETICS.

AT the adjourned meeting of this section held on Feb. 5th the following special resolution was passed:—

That the Council of the Royal Society of Medicine be informed that the Section of Anæsthetics approves of legislation to restrict the administration of anæsthetics to legally qualified medical practitioners.

During the discussion, of which we are able only to give a brief note this week, it was decided that the section would not oppose permission being given to registered dentists to administer nitrous oxide gas if the Odontological Section considered that such permission should be granted, provided that instruction in the physiological action, administration, and dangers attending the administration of this drug were made compulsory for the Final L.D.S. examination.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 8th, Mr. CHARTERS J. SYMONDS being in the chair.

Dr. A. F. VOELCKER showed a case of Widespread Peripheral Neuritis of uncertain origin in a child, three years of age. The case was exhibited at a clinical meeting of the society on Nov. 9th, 1908.—Dr. G. A. SUTHERLAND showed a case of Generalised Paralysis of uncertain origin in a boy, three years of age.—These two cases were discussed together and Dr. Voelcker said that he showed the case at the November meeting last year as one of probable diffuse glioma of the cord. He felt sure now that the tentative diagnosis he then made was incorrect and it seemed to be a case of peripheral neuritis. He did not think it post-diphtheritic because neither the eye muscles nor the palate muscles showed at any time any sign of being affected. The case now was steadily but slowly improving. The amount of muscular wasting was very small compared with the degree of paralysis. Possibly it was the result of some toxic agent which was connected with the diphtheritic poison but the nature of that had not yet been discovered.—Dr. F. J. POYNTON said that when he saw Dr. Voelcker's case in the out-patient department it struck him as a peculiar one. The question arose as to the diagnosis between it and anterior poliomyelitis. Recently there had been some remarkable cases of the latter condition affecting a very large area of the body, very symmetrically, and the patients had made a very fair recovery. The onset in this case was gradual but in outbursts, one part of the body being affected and then after an interval another part. When he sent the child in from the out-patients at Great Ormond-street there were marked paralysis and weakness of the forearms, and when she had been in the ward for a day or two and rested it was thought there was scarcely any paralysis at all. That was very unlike the behaviour of a severe case of anterior poliomyelitis affecting a large area of the body. He agreed with Dr. Voelcker's name for the case. He would have been sorry if it had been put down as diphtheritic peripheral neuritis, because there was nothing worse in clinical medicine than, because one did not understand the cause of a disease, putting it down as what it was thought it ought to be. In that way work went on in a circle and no real advance was made.—Dr. SUTHERLAND said that there were some striking similarities between his own case and that of Dr. Voelcker. He agreed with what Dr. Poynton said, but there were cases in which, though definite evidence that the condition was post-diphtheritic could not be obtained, the clinical course was such as practically to convince one that it was of that nature. In his own case there was no proof that the patient suffered from diphtheritic paralysis, but after watching the case four months he thought the course of the illness was strongly suggestive of diphtheritic paralysis. The

patient came into the hospital in the condition which strongly suggested the latter disease, with the heart very much dilated and the pulse very rapid, and for some weeks the patient seemed to be in great danger of cardiac failure. This child's left side of the thorax was paralysed and the diaphragm also, and a month after admission the lung was completely solid, yet the child had gone on definitely breathing through the thoracic muscles on the right side for months. There had been a progressive improvement in the lung and in the muscular power of the affected muscles. He had no evidence of examination of the spinal fluid.—Dr. POYNTON, discussing Dr. Sutherland's case, asked whether Dr. Sutherland thought there was what was known as massive collapse of the child's lung which had been described by Pasteur. Also was not that condition more common in diphtheritic paralysis or in paralysis affecting the diaphragm than in any other condition? Also was it not singular that there was no œdema of the lung? It would be interesting also to know how much the diaphragm moved when the disease was more active than it was at present.—Dr. VOELCKER, in reply, said he understood that cases of diphtheria occurring in other situations than the throat had been noted to be followed by paralysis occurring in other parts to the exclusion of the palate and of the eye. He had never seen such a case, but he had seen paralysis of the throat following upon diphtheria in which there had been no obvious local throat manifestation. He had seen a fair number of diphtheritic cases, because for some years at Great Ormond-street he had charge of the diphtheria cases and of the post-diphtheritic cases, and he could not recall a case in his own experience in which any extensive diphtheritic paralysis had been unaccompanied by eye or throat mischief. —Dr. SUTHERLAND, in reply, said that he did not think the fact that the diphtheria was away from the ordinary position would predispose to the escape of the eyes; he meant he would not be surprised to find that the eyes got affected. And in such a young subject the paralysis of accommodation could scarcely be tested for. With regard to massive collapse, he was puzzled by the condition of the right lung, but if massive collapse meant complete consolidation of the right lung he could not understand how with that condition the child could go on breathing. Five weeks ago both sides of the diaphragm moved.

Dr. VOELCKER also showed a case of Hydatid of the Liver treated by operation, the patient making an excellent recovery.—Mr. T. H. KELLOCK, in discussing the case, said the credit of the case was due to Dr. Voelcker because he showed it at a previous meeting of the society amid much opposition and scepticism, but he (Dr. Voelcker) adhered to his opinion that it was hydatid, and asked him, Mr. Kellock, to cut down upon it, which he did, though he was also one of the sceptics.

Mr. P. MAYNARD HEATH showed a case of Typhoid Periostitis of the Left Femur, the lower end being greatly thickened.—Sir JOHN BROADBENT said that one case of periostitis following typhoid fever he brought up to town to have typhoid vaccine used, but because the case did not show the Widal reaction it was not done. Periostitis took a long time to disappear and he thought the vaccine would have very much shortened the trouble. It did not follow that there would be the Widal reaction in such cases because there were not sufficient protective substances evolved for that.

Dr. F. PARKES WEBER showed three cases: one a case of Acquired Chronic Acholuric Jaundice with Splenomegaly; a case of "Splenomegaly" due to Inherited Syphilis (?); and a case of Raynaud's Gangrene in a Malarial Subject.

Dr. WILFRED HARRIS showed a case of Syringobulbia, which was discussed by Dr. L. G. GUTHRIE and Sir JOHN BROADBENT, after which Dr. HARRIS replied.

Mr. SYMONDS exhibited a case of Congenital Dislocation of the Hip four years after Lorenz's operation. A skiagram showed the head of the femur resting above the acetabulum in a shallow depression, so that reduction, if successful for a time, had not been permanent.—Mr. KELLOCK said that in cases of congenital dislocation of the hip much depended on how long the child was kept in the abducted position afterwards. It was a painful procedure, and Mr. Symonds was obliged to confess that this child was almost as bad as before the operation was done. His own experience of cases in which Lorenz's operation had been done was that they were beautiful for the first few months, and very nice while in the apparatus, and sometimes the x ray photograph was taken while the apparatus was on. But as soon as the legs were put down straight again the head of the bone would again slip out of the acetabulum. For a long time after the operation the children did not walk comfortably but were lame, and after that they "saved" the leg as much as possible, refraining from bearing very full weight upon it. Once they got confidence and bore their weight on the limb again the bone came out. Therefore was it worth while putting the children to all that prolonged trouble and inconvenience for such a result?

Mr. SYMONDS also exhibited a case of Stricture of the Œsophagus showing the method of treatment by a long rubber tube.

Mr. W. H. CROLY, introduced by Mr. L. ELIOT CREASY, showed a case of Epidermolysis Bullosa.—Dr. PARKES WEBER said that the case was an absolutely typical one of epidermolysis bullosa, but of a rather milder form than usual, the hands and feet only being affected.—Dr. W. EWART pointed out that the thyroid gland in the patient was distinctly larger than normal.

Mr. KELLOCK showed a case of Deformity in the Long Bones in a boy six years of age. There was considerable laxity of the joints and the skiagrams showed bending of the shafts of the long bones. The pelvis was much deformed, approaching the tri-radiate form.

Dr. F. S. PALMER showed a case of Spinal Caries followed by Pressure Paraplegia in which considerable recovery had followed laminectomy.

Mr. W. H. BATTLE showed a case of a large Irreducible Femoral Hernia, the circumference being 13 inches.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Treatment of Varicose Veins.—Adams-Stokes Syndrome.

A MEETING of this society was held on Feb. 3rd, Dr. JAMES RITCHIE, the President, being in the chair.

Mr. J. M. COTTERILL opened a discussion on the Treatment of Varicose Veins in the Lower Extremities. He said that for the sake of convenience the question might be considered under two heads: (1) the treatment of varicose veins as such, and (2) their treatment when complicated by phlebitis or thrombosis or both. The question as to whether a varicose vein could ever be *cured* in the strict sense of the word would depend largely on the extent of the changes which had taken place in its wall. In the later stages when fibrous material had replaced the normal constituents of the vessel it was hardly possible that real cure could happen. As regarded the etiology of varix Billroth pointed out that sudden obstruction to a vein caused œdema, gradual obstruction caused a free collateral circulation; but that neither sudden nor gradual obstruction could cause varix without the intervention of some other factor, hereditary or otherwise. The causes of varix might be divided into (1) predisposing—e.g., hereditary tendency, pregnancy, weak heart, &c.; and (2) exciting—e.g., pressure above by tumours, garters, &c., excessive and long-continued exercise of the calf muscles as in professional runners, &c. In regard to treatment, removal of the cause was often impossible, or, if possible, did not cure the fully established disease, and thus other treatment was necessary. It had to be borne in mind that local treatment by bandaging would probably require to be continued constantly afterwards, and that local treatment was not necessary or even desirable unless the varix were causing troublesome symptoms, as pain, cramp, œdema, eczema, &c. While about 80 per cent. of the cases commenced before the age of 25 years, there was often a tendency to remain stationary or even to improve after middle life. Treatment resolved itself into (1) palliative, and (2) radical. Palliative measures such as rest, tonics, regulated exercise, cold baths, &c., together with some form of local support, were indicated. On the whole a carefully applied Martin's perforated indiarubber bandage seemed to suit the majority of cases best. Elastic stockings had many disadvantages but if worn had to be carefully made and fitted and frequently renewed. A Martin's bandage was

a very powerful weapon and required to be put on with great care. In some cases it irritated the skin and produced eczema, but if scrupulous attention were paid to cleanliness both of the bandage and of the skin and the application of dusting powder little harm would result. A white cotton stocking worn under the bandage might prevent skin irritation in many cases. With regard to radical operations Mr. Cotterill observed that if the condition got worse or if the bandage could not be worn then it was advisable in many cases to operate. The indications for interference (apart from thrombosis and phlebitis) were (1) when the varix affected one vein or set of veins of large size; and (2) when the varicose condition reached fairly well up in the thigh or when in a varix of the lower leg there was phlebitis, ulcer, or danger of bleeding from a thin-walled pouched varix. Mr. Cotterill did not think that the ligature of the vein in the upper part of the thigh (Trendelenburg's operation) was sufficient and he preferred Phelps's method in which an inch or two was taken out of the saphena vein high up and also at several other points lower down the limb, especially distended portion of vein being dissected out. The risks were sepsis, thrombosis, and possibly pulmonary embolism. He thought that Michel's clamps were better than sutures and preferred not to operate when there was an open ulcer until it was healed or at least rendered as aseptic as possible. The dangers of thrombosis and detachment of clot were minimised by strict asepsis, rest in bed for three weeks after operation, the careful and gentle handling of the wound, and the avoidance of too much strain on the leg for some weeks after the patient has left his bed. In addition, the chief contra-indication to operation was thrombosis of the deep venæ comites of the tibial vessels. This was evidenced by deep pain in the calf and œdema of the foot. In these cases the blood from the leg and foot had to return by the superficial veins which, of course, must not be touched. Directing his remarks to the subject of the results of operations Mr. Cotterill said that he had records of 59 cases of operation for varicose saphena. The operations had varied from the removal of small localised varices to the excision of the whole length of the vein from groin to ankle. All of these patients had recovered without bad symptoms. In none, so far as he knew, had there been recurrence, and many patients affirmed that they could now walk 20 miles a day without discomfort. Regarding treatment of varix complicated by thrombosis or phlebitis Mr. Cotterill said that owing to changes in the vein wall and slowing of the blood current thrombosis was of frequent occurrence in varicose veins and might spread upwards with serious consequences. As a rule, elevation of the limb and absolute rest in bed for three weeks or more was the best course to pursue. If the clot were spreading upwards due merely to centripetal addition then it might be advisable to ligature well above the thrombus, but if the thrombosis occurred in a varicose vein as the result of blood change (typhoid fever, influenza, &c.) the ligation would do harm. A local thrombosis in a varicose vein might in later life tend to cause spontaneous cure of the varix. Phlebitis might be (1) simple and might end in resolution, obliteration of the vessel, or in localised abscess; or (2) infective where there was a spreading infective inflammation of the vein wall and tissues. The infective thrombus might soften, break down, and being carried by the general circulation give rise to pyæmia. In simple phlebitis in a varix soothing applications, elevation of the limb, and rest constituted the treatment. If pus formed the vein had to be ligatured and divided well above the inflamed area, and the inflamed area of vein thoroughly cleaned out or excised, and the same method ought to be carried out in infective phlebitis. In conclusion, Mr. Cotterill made the following recommendations. 1. Remove the cause as far as possible. 2. Do not treat locally unless the varix gives trouble. 3. When the varix is restricted to the lower leg treat by bandage. 4. When the bandage fails or when the saphena above the knee is affected perform operation. 5. Treat thrombosis by rest but if spreading operate. 6. In simple phlebitis employ rest and soothing applications, and if suppuration occurs or if the condition is recurrent operate. 7. Operate in infective phlebitis if the patient's condition will admit.—Dr. GEORGE HUNTER remarked that in cases of marked anæmia as in bleeding fibroids he had noticed a marked tendency to the formation of thrombi, and that improvement in the condition of the blood hastened the cure of the thrombosis.—Mr. J. W. DOWDEN referred to the value of the crêpe bandage as a palliative agent. As regarded the spread of thrombosis upwards he thought that there must be a "something" behind which caused this spread and advocated aseptic ligation of the vein higher up as being beneficial.—Mr. A. A. SCOT SKIRVING referred to C. H. Mayo's operation where the vein was ligatured above and below and by means of an instrument passed down over the vein it was separated from its attachments, isolated, and withdrawn. As many veins were brittle as well as dilated he thought that this operation could only have a limited use. He alluded to the superior advantages of the bandage over the stocking. In the excision of veins he thought that sepsis played a more important part than in other operations and he recalled three cases which became septic after the excision of thrombosed veins.—Mr. J. W. STRUTHERS had been struck by the large number of cases of varicose veins in which there were no symptoms complained of. He had also seen a large number of cases after operation which were as bad as could be imagined. He asked what was the effect of operation on a varicose ulcer. Did healing result from the operation or from the rest?—Mr. GEORGE L. CHIENE said that operation might be desirable in those desirous of entering the services or where the condition was so troublesome as to interfere with their work. He had operated on 20 patients by Charles Mayo's method, about half this number having both limbs treated by operation. The advantages of this operation were the saving of time and the large extent of the vein which could be removed. When the vein walls were friable or where there were thrombosis and marked tortuosity this operation was not suitable. In comparing the after-results of the 20 cases operated on by Mayo's method with 20 others operated on by different methods he found that the results of the former were even better than the latter, and this with a saving of time during operation and with very small incisions.—The PRESIDENT said that although a large number of patients made no complaints yet they progressively got worse. This could be prevented by the use of bandages. He had given up the use of Martin's bandage and he usually employed the crêpe bandage. In very slight cases he recommended the patient to wear a tightly knitted stocking with the foot cut off and the cut end overstitched. This could be drawn tightly up on to the leg and supported it well. He condemned the use of the elastic stocking. Operation should be recommended if the patient were going abroad, intending to join the services, or unable to carry on his or her employment. He had seen many cases of complete cure after operation. In cases of varicose veins with phlebitis prolonged treatment was necessary. He had found that the application of a 10 per cent. solution of ichthyol in glycerine was more useful in this inflammation than lead and opium.—Dr. CHALMERS WATSON, Dr. NORMAN WALKER, Dr. H. S. BALLANTYNE, Dr. T. B. DARLING, Dr. E. ARMOUR, and Dr. J. B. JAMIESON took part in the discussion.—In reply, Mr. COTTERILL said that he had not used Mayo's operation, because trouble was likely to arise from the bleeding from the divided branches and he did not see the necessity for excising so large a part of the vein. Before operation he treated the skin with iodine in order to sterilise it. A radical operation usually improved a varicose ulcer. He denied that varicose veins always got worse and said that they often improved after middle life and this constituted another reason for non-interference.

Dr. G. A. GIBSON and Dr. W. T. RITCHIE communicated a paper on a Historical Instance of the Adams-Stokes Syndrome due to Heart-Block. We hope to publish this in a future issue.

LIVERPOOL MEDICAL INSTITUTION.—A pathological meeting was held on Feb. 4th, Mr. T. H. Bickerton, the President, being in the chair.—Mr. G. P. Newbolt showed: 1. A Lipoma removed from the ischio-rectal fossa of a woman. The symptoms were those of a chronic ischio-rectal abscess. 2. A Calcified Fibroma of the Thigh which had been present for 14 years. 3. Recurrent Myxoma of the Thigh. 4. Hair Ball removed from a Girl's Stomach. A bismuth x ray showed the mass projected through the pylorus.—Dr. R. E. Harcourt showed: (1) Horny Growth from the Lower Eyelid; (2) two cases of Malignant Disease of the Ear; and (3) Cyst of the Eye following a kick some years before. The resulting blindness was attributed to detachment of the retina.—Dr. K. A. Grossmann considered this case to be one of embryonal lens due to the growth of some

displaced portion of ectoblast.—Dr. H. Leith Murray showed: (1) a Section of a Suprarenal Rest found in an inguinal Hernial Sac; (2) Sarcoma of the Omentum; and (3) Egg-shell Fibroid of the Uterus.—Dr. P. F. Tinne showed a specimen of Trachinus Vipera. He remarked that the poison lay in the fins and differed from that of the venom fangs of snakes. The local effects of being struck were vaso-constriction followed rapidly by a hard, white œdema.—Dr. J. Lloyd Roberts showed a Lung with an Azygos Lobe and read a note on Malformations of the Lung.—Mr. W. Thelwall Thomas and Dr. J. Murray Bligh showed: 1. A Gall-bladder with Calculus Blocking the Cystic Duct removed from a female, aged 54 years. 2. Thyroid Adenoma with a Shrivelled Calcified Cyst in its Centre. The cyst had been tapped eight years previously. 3. Exophthalmic Goitre removed from a girl, aged 18 years. Symptoms had been present for 12 months. Marked improvement followed operation. Sections showed great proliferation of the acinous epithelium with little colloid material.—Dr. Ernest E. Glynn showed: 1. A Heart with Large Vegetations on the Aortic Valves containing Pneumococci. The man had enjoyed good health until attacked with lobar pneumonia 17 days before death. 2. A case of Bronchiectasis with Abscesses in the Lower Lobe of the Right Lung, due to impaction of a clove in the bronchus which must have been present for several weeks.—Sir Rubert W. Boyce read a note on Actinomycosis as a Source of Infection for Man. He had examined a considerable number of cases of this disease in pigs and cattle and noted the frequency with which the udder of the cow had been affected. He suggested the possibility of milk being affected from the diseased udder and gave this as an additional reason for the sterilisation of milk before consumption.—Dr. T. R. Glynn referred to a case of actinomycosis which had commenced in the lung and later gave rise to nodules in the legs. Inquiry failed to elicit the possible source of infection.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 3rd, Dr. P. Boobbyer, the President, being in the chair.—Dr. R. D. Maxwell, obstetric registrar to the London Hospital, delivered an address on Some Considerations on the Operability of Cancer of the Cervix in the Light of Recent Operative Technique. Pointing out how frequently an operation showed the disease to be far more extensive than had been anticipated, Dr. Maxwell urged the need for examination of doubtful cases under anæsthesia, with exploration and microscopic examination of the cervical mucosa. Comparing the results of operation by the vaginal route with abdominal pan-hysterectomy (implying complete segregation of the cancer), as advocated by Wertheim of Vienna, cure was much more likely in the case of the more radical abdominal operation, and the pioneers in this particular field deserved credit for not being deterred by a high immediate death-rate at first associated with it. At the same time he thought that such an operation ought not to be performed after the age of 60 years. Briefly alluding to the vesical and other urinary complications associated with convalescence from Wertheim's operation, Dr. Maxwell pressed the importance of systematic education of the female population in the early symptoms of cancer, so that cases might come under expert notice much earlier than was the rule at present. As the result of the crusade against cancer in Germany initiated by Winter of Königsberg, the percentage of operable cases had there materially increased, and similar good might result in the United Kingdom from the pamphlets on cancer placed in the hands of registered midwives during the last two years.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. W. Langdon Brown, Vice-President, being in the chair.—Dr. Langdon Brown showed a Heart which had been removed from a man, aged 48 years, who had suffered from aortic regurgitation together with some mitral incompetence. One day when being examined sitting up in bed he suddenly gave a choking sound, became blue, and died at once. There was a mass of atheromatous deposit completely blocking the right coronary artery and the obstruction appeared to be of long standing. It would, therefore, appear that there must be a much freer anastomosis between the right and left coronary arteries than is usually supposed.—Dr. Langdon Brown also related a case of Melanotic Sarcoma of the Lung.—Dr. Langdon Brown and Mr. C. Gordon Watson showed the Œsophagus and Stomach of a woman who had died from hydrochloric acid poisoning. The œsophagus was constricted behind the thyroid, the whole stomach was intensely contracted, and the pylorus greatly stenosed. The stomach wall was so disorganised that gastro-enterostomy had been useless as the stitches tore out.—Dr. L. Durno related a case of Symmetrical Cervical Glandular Disease cured by x rays. The condition, which was tuberculous, was of long standing, but under x rays improvement began at once and a cure was effected in three months.—Dr. B. G. Morison read further notes of a case of Excision of the Rectum which had been operated on by Mr. W. E. Miles on Oct. 20th, 1908.—Dr. D. Ross showed a man, aged 32 years, who had frequent attacks of Angio-neurotic Œdema accompanied by Hæmaturia.

ROYAL MEDICAL SOCIETY OF EDINBURGH.—A meeting of this society was held on Feb. 5th, Dr. A. Macdonald being in the chair.—Mr. J. W. Struthers read a paper on Local Anæsthesia. He dealt at the outset with the choice of a drug and strongly advocated the claims of novocaine in dilute solutions. He went on to describe minutely the technique which should be adopted in inducing infiltration anæsthesia, laying stress on the necessity for using large quantities of dilute solutions. He mentioned the type of operation for which this method of anæsthesia was suitable—viz., operations on the extremities and superficial operations in which the field was definite and limited.—A vote of thanks, proposed by Mr. A. Scot Skirving and seconded by Dr. H. J. Dunbar, was accorded to Mr. Struthers for his exceedingly interesting paper.—Dr. M. Fraser read a paper on Diseases Spread by Water and Food, their Etiology and Prevention. His paper, which led to a good deal of discussion, was much appreciated.

Reviews and Notices of Books.

Recidivism: Habitual Criminality and Habitual Petty Delinquency; a Problem in Sociology, Psycho-pathology, and Criminology. By J. F. SUTHERLAND, M.D. Edin., F.R.S. Edin., F.S.S., Deputy Commissioner in Lunacy for Scotland; late Medical Officer and Consulting Medical Officer, H.M. Prisons, Glasgow and Barlinnie, &c. Edinburgh: William Green and Sons. 1908. Pp. 115. Price 3*s.* net.

IT has long been a matter of regret to all who are in sympathy with the application of the scientific spirit to the discussion of social problems that this country, despite its excellent record in the history of prison reform, should have contributed so very little to the modern investigations of the biological and bio-social factors of crime, and should thus have remained to a great extent outside the movement which is revolutionising the old conceptions of the nature of criminality and the aims and methods of penal treatment. In our periodical literature concerned with more or less allied branches of knowledge papers dealing with criminological questions are of rare appearance, while the number of comprehensive works treating of the subject in the English language is quite insignificant. Any indication of a change from this attitude of indifference to the study of the criminal is therefore to be hailed with satisfaction, and on this account a cordial welcome may be given to Dr. Sutherland's interesting monograph on recidivism. The author's long official connexion with prison and lunacy administration qualifies him in a peculiar degree to discuss the different aspects of this very complex problem, and the fact that he has been in a position to study the sane as well as the insane criminal saves him from the bias which may frequently vitiate the theories of the alienist.

The term recidivism, though it has lately been extended by some writers to embrace the recurrence of insanity, is generally used with reference solely to criminals to indicate persistent relapse into crime, and the amount and character of recidivism are usually looked on as amongst the most

significant features in the statistical movement of criminality and also as the most trustworthy measure of the efficacy of penitentiary methods. A correct understanding, therefore, of all the factors that enter into its causation is obviously of the first importance in criminology. As an essential condition to such an understanding Dr. Sutherland lays stress on a distinction which he draws between two types of recidivist—the habitual petty delinquent and the habitual criminal who commits the more serious offences against property and the person. Amongst the former are a very large number of individuals with innate or acquired debility of mind, while the truly criminal recidivists, with the exception of the alcoholic perpetrators of crimes of violence, are very generally of average or more than average mental capacity. The inclusion of the weak-minded alcoholics with the professional criminals is a defect in Dr. Sutherland's classification and suggests that the differentiation which he makes would have been more useful if his criterion had been the intellectual value of the crime rather than its social gravity, that is to say, if his two types had been "skilled criminal recidivists" and "unskilled criminal recidivists." Subject to this limitation the distinction is valuable, and in applying it to the facts and figures regarding recidivism in England and Scotland Dr. Sutherland brings out several points of interest which, though not altogether novel, are by no means recognised as fully as they ought to be. From this point of view special reference may be made to the author's remarks on the relative frequency of insanity in the several varieties of criminals; the figures which he gives show that amongst homicidal criminals, sexual offenders, and incendiaries the ratio of insanity is extraordinarily high, no less than 1 in 30 of the first group, 1 in 87 of the second, and 1 in 35 of the third being found to be of unsound mind. The inference very fairly drawn from this is that in all offences of the sorts specified there is a *primâ-facie* probability that the delinquent may be insane.

Of course, all investigations concerning subjects of this kind must submit to the limitations of the statistical material which they use; and in the case of recidivism the defects of this material are unfortunately grave and numerous. The most serious of them, and one which has had a considerable influence on Dr. Sutherland's figures, is the absence in British statistics of any distinction between what the French term *la récidive générale* and *la récidive spéciale*, the first signifying a re-conviction after a pre-conviction for any offence whatever, while the second means a re-conviction for an offence of the same nature. It is impossible to arrive at any conclusions of value with regard to the psychological significance of recidivism, its relation to age and sex, its connexion with economic conditions, and so forth, unless we know whether we have to do with recurrence of the same form of delinquency or not. To take a single instance from Dr. Sutherland's pages, he points out (page 28) that in all forms of crime women surpass men in the higher degrees of recidivism; in theft, for example, the ratio of females to males amongst prisoners with 4 to 10 previous convictions is 26 : 100, while amongst those with 50 to 100 convictions it is 130 : 100. But it is impossible to attach any value to this result as it stands, for it is quite likely that the apparent predominance of high recidivism in women is due merely to repeated convictions for prostitution. And a further proof of the importance of this point is furnished by a very interesting table in which the author has given the result of his own inquiries into the nature of the recidivism in 370 convicts in Scotch prisons; from these figures it would appear that in crimes of acquisitiveness and crimes of violence special recidivism is the rule, while amongst sexual offenders, on the other hand, previous convictions were more frequently for homicidal than for sexual delinquency. The numbers dealt with were, of course, too small to afford a basis for conclusions, but the result shows the absolute necessity of knowing to what sort of recidivism our statistics refer. From this point of view, therefore, the very imperfections of Dr. Sutherland's essay may be of service as an argument in support of the demand that official statistics of crime should give more ample data regarding the personality of the criminal. And in any case the volume should do good in stimulating discussion of one of the most interesting as well as one of the most important of the problems of criminology.

Religion and Medicine: The Moral Control of Nervous Disorders. By SAMUEL MCCOMB, D.D., ELWOOD WORCESTER, D.D., Ph.D., and ISADOR H. CORIAT, M.D. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1908. Pp. 427. Price 6*s.* net.

THE hurry and stress of modern civilisation have led to the appearance of an abnormal increase of various forms of nervous disease. In America the climate and the mode of life are considered to be even more trying for the nervous system than are the conditions met with in Europe. It is noteworthy in this connexion that neurasthenia, which has been called the disease of civilisation, was first fully described by Dr. G. M. Beard, a physician of New York, in 1868. As a natural consequence of this prevalence of nervous disorders there has been produced in America during the past decade an ever increasing flood of literature professing to cure such diseases by other than medical means, while strange doctrines enunciated in wild and often uncouth language, sometimes associated with mystical tenets disguised in pseudo-metaphysical phraseology, have been preached by innumerable disciples of the various American sects of mental, moral, and spiritual healing.

The medical profession as a whole has wisely held itself aloof from these sects. Medical science has long admitted the influence of the mind over the body. Everyone has recognised the power possessed by certain medical men, quite apart from their medical knowledge, to bring about more rapid cures than could be attained by drugs or by the *vis mediatrix naturæ*. This power has been variously described as "a good bedside manner," a powerful or magnetic personality, or as an ability to inspire confidence in the patient. Medical science has also long perceived the danger of attributing all recovery from disease as due to this power of the physician. Sooner or later the man who relies on his "personality" and neglects the methodical examination of his patient is bound to commit some error in diagnosis and treatment which may result in the loss of that patient, and often with that one error the "power" of that physician vanishes entirely. The above description applies even more aptly to the career of the quack. The scepticism of medical men when questioned by their patients as to the value of the many glowing advertisements of pills and syrups on the market is due to the same fact; the medical man knows that in nine cases out of ten the value of the preparation depends entirely on the amount of faith and credulity of the patient who swallows it. The medical profession has from the beginning recognised that many of the "curing" cults contained germs of truth and of practical usefulness; but these were so inextricably mixed up with illogical reasonings, unscientific hypotheses, and absurd metaphysics capable of being disproved by any tyro in science and philosophy, that no self-respecting and honourable scientific body could lend the dignity of its support to such flimsy and transitory theories. Moreover, the tenets of some of these sects, especially that known as "Christian Science," contain matter

that is a positive danger to those uneducated in medical science; and the medical profession, true to its duty as guardian of the public health, has never ceased to warn people of that danger to health and to life.

This book, "Religion and Medicine," is, so far as we are aware, the first of the kind to endeavour to combine medical science with moral and mental therapeutics. It is written by two clergymen and one medical man and there is a short appendix by a second medical man. The aim of the book is, to quote from its introductory chapter, "To describe in plain terms the work on behalf of nervous sufferers which has been undertaken in Emmanuel Church, Boston," and the ensuing chapters deal with the subconscious mind, suggestion and auto-suggestion, functional neuroses, causes of nervousness, the nervous system in health and disease, the nature and therapeutic value of hypnotism, psychotherapy, fear and worry, the therapeutic power and value of faith, suicide and its prevention, the healing wonders of Christ, and the outlook of the Church. These difficult problems of neurology are described in a simple and lucid fashion, so much so that our only complaint is that they may be too widely read by the layman who is unable to distinguish between what is established fact and what is still matter for debate in neurology. For example, it is taken for granted that M. Janet's brilliant studies on the nature of hysteria and other functional neuroses are true. As there are many neurologists who do not subscribe to M. Janet's theories in their entirety, the passages dealing with these matters might mislead the reader who has not time to keep himself abreast with the abundant current literature of neurology. For example, in many chapters it is stated without reservation that hysteria and neurasthenia are due to disease of the "subconscious mind." In Chapter XII. it is said: "So long as such theories of auto-intoxication or of visceral ptosis were promulgated to explain the neurasthenic symptom-complex, and treatment was instituted along the lines suggested by these theories, just so long did therapeutics fail to accomplish the desired result—the cure of the patient." In view of the cases of relief of neurasthenia treated solely by attention directed to the digestive organs, which have been reported in this country by Dr. T. D. Savill, this statement requires modification.

There is a good deal of overlapping and even some contradictory passages in the book, things which are perhaps inevitable when we remember that it is written by three authors. The work has, also, the usual fault, so difficult to avoid in books written for a mixed public, of being at once too full for the lay reader and too lacking in detail for the medical reader. For the lay reader there is too much about the abstruse and still unsettled neurological problems; for the medical reader there is not enough practical detail describing at length the methods of psychological treatment in individual cases.

Physiology and Pathology of the Urine, with Methods for its Examination. By J. DIXON MANN, M.D. St. And., F.R.C.P. Lond. Second edition, revised and enlarged. With illustrations. London: Charles Griffin and Co. 1908. Pp. 324. Price 10*s.* 6*d.*

FOUR years have elapsed since the publication of the first edition of this work but so rapid have been the advances in our knowledge of biological processes that a revision of certain portions of it was called for. In our review of the first edition we spoke in appreciative terms because it was not difficult to discern that the book was written in line with recent investigations as regards both the chemistry of urine and the clinical significance of the results obtained in analytical methods. We may express again the same favourable judgment in view of the fact that the author recognises that "various errors of metabolism which manifest themselves by the appearance of abnormal products in the urine are no longer attributed to specific isolated causes but to correlative though disorderly processes." Thus, as he says, the knowledge which we now possess concerning the metabolism of protein has made plain much that was obscure, and many substances which formerly were regarded as essentially abnormal are now known to be only relatively so. That is to say, that these numerous substances must in our present knowledge be considered as intermediate products of normal metabolism, which are rendered abnormal by the failure of the individual who excretes them to utilise them in a direction which is physiologically correct. We note that some attention has been directed in this edition to the casual substances present in urine. For example, on p. 86 there is a record of a case of heptose in urine which reduced copper salts but did not give the blue reaction with an alkaline solution of copper sulphate. The presence of a more or less rare sugar was also indicated by the discordant results yielded by methods of titration, polarisation, and fermentation. Again, in the paragraph on diacetic acid Riegler's test has been added. Similarly fresh matter in accordance with modern researches has been added to the paragraph on acetone. Under the paragraph on adrenal glycosuria the sentence is added that "sugar may be present in human urine after hypodermic injection of adrenalin for therapeutic purposes." The section on pathological glycosuria has received considerable addition following upon the contributions made to the subject in recent literature. The paragraph on gout has been similarly amplified.

These few examples serve to show the care which the author has taken to keep his discussion of the subject well abreast of modern acquisitions of knowledge and this care is extended to every chapter in a work which may safely be recommended to those who are anxious to keep pace with the various developments of this very important subject.

Archives of the Pathological Institute of the London Hospital (Sir Andrew Clark Memorial). Vol. II. London: Adlard and Son. 1908. Pp. 187.

THE second volume of the Archives of the Pathological Institute of the London Hospital contains various papers recording the work done in the institute and it forms a worthy successor to the first volume. Dr. C. U. Aitchison contributes a paper on Mesaortitis and Aneurysm. The various views which have been suggested to explain the formation of aneurysms are given and these are summarised as follows: the theory that they are due to atheroma, the mechanical theory, the inflammatory theory, and the syphilitic theory. As a result of careful examination of the aorta in a number of cases of disease of that vessel, Dr. Aitchison concludes that two distinct pathological processes occur—the one degenerative, commonly called "atheroma"; the other inflammatory, and referred to as "mesaortitis." Atheroma leads to thickening, degeneration, and calcification, to the formation of ulcers, and sometimes to fusiform dilatation. Mesaortitis ultimately leads to pitting and scarring of the intimal surface, to small depressions, and to definite sacculated aneurysms. The two processes may be present in the same aorta, and pitting and scarring are stated to be diagnostic of mesaortitis. Syphilis is the cause of this condition in the majority of cases.

Dr. H. M. Turnbull and Dr. R. A. Worthington contribute two papers which are mutually dependent. The first is on regeneration of the liver; and the second deals with three cases illustrating the transition from regeneration to carcinoma in cirrhosis of the liver. In the first of these the various types of regeneration are described and unicellular and multicellular forms are separated, the latter being again subdivided into simple and composite "regeneration nodules,"

and these further into special types. In the second paper it is shown that there are two elements in the liver which are capable of independent regeneration—namely, the cells of the lobules and those of the interlobular bile ducts, and in both it is found that widely atypical regeneration may lead to the formation of cancer. In the tissues formed by the diseased liver in its attempts at regeneration as illustrated in the cases recorded in this paper, the following forms were differentiated: the "regeneration nodule," the "regeneration adenoma," and the "malignant regeneration adenoma."

Dr. Turnbull describes the results of his investigation of two cases of bone and marrow in the suprarenal capsule. The formation of bone in areas of calcareous degeneration has been shown to occur in many tissues, and Dr. Turnbull states that it is a much more common phenomenon than is usually suspected. In the cases which he investigated he regarded the process as secondary to an ischæmic necrosis following on hæmorrhage into the suprarenal tissues. The cases are of considerable interest in connexion with the much-discussed question of metaplasia, and after a critical examination Dr. Turnbull concludes that the osteogenetic tissue which led to the deposit of bone in the suprarenal glands was formed by a metaplasia of connective tissue already present there. The question of the origin of the hæmatogenous tissue or marrow is more difficult and the appearances obtained did not permit of a decision as to whether it resulted from metaplasia or from specialised "indifferent blood cells." Mr. G. B. Bartlett contributes an interesting study of a case of "spontaneous" or "isolated" myocarditis in a young child. He regards the condition as a definite disease with characteristic symptoms and pathological changes.

The histogenesis of Hodgkin's disease forms the subject of a paper by Mr. F. S. Kidd and Dr. Turnbull. A careful description is given of the histological changes in two fatal cases. It is recommended that no case should be classed as Hodgkin's disease unless it is confirmed by histological examination of a gland removed during life or at necropsy, as was suggested by Dorothy Reed. Dr. C. H. Miller describes the histological appearances in a case of general lymphatic hyperplasia which were of inflammatory nature and different from those of Hodgkin's disease. Dr. Turnbull and Dr. Worthington give an account of two cases of carcinoma arising primarily in a bronchus, and further contribute a note on a case illustrating the importance of microscopic examination of the prostate in malignant tumours of obscure origin. In all these cases the primary growth was small as compared with the size of the metastates and in the case of the prostate was only revealed on microscopical examination. Mr. F. N. Standish and Dr. Turnbull contribute a short paper on Bilateral Ovarian Tumours secondary to Scirrhous Carcinoma of the Stomach, and they point out that in the light of recent observations it must be maintained that primary carcinoma of the ovary is rare, while secondary disease is comparatively common.

The various papers are illustrated by excellent plates and the work represented in this volume is an admirable example of what can be accomplished in a well-organised pathological department.

Traité des Maladies des Voies Urinaires. (*Treatise on Affections of the Urinary Tract.*) By E. DESNOS and H. MINET, Anciens Internes des Hôpitaux de Paris. With 289 figures in the text and eight plates in colours. Paris: Octave Doin et Fils. 1909. Pp. 1100. Price 20 francs.

THE antiseptic method was for some time confined to wounds or operations on the body and limbs and for many years it was not applied to any great extent to the natural apertures of the body, for it was tacitly assumed that as these could not be rendered aseptic the strict precautions adopted elsewhere were not applicable. Even comparatively recently many surgeons who would be scrupulously exact in antiseptic or aseptic methods in any other region of the body were certainly somewhat careless when dealing with the urethra and the bladder. It is now recognised that especial care is desirable even in ordinary operations in this department of surgery. This change of attitude is very noticeable in the more recent literature bearing on the subject, and nowhere have we seen the antiseptic method more thoroughly applied to the urinary passages than in the work before us.

The first section deals with the affections of the urethra and here the most important part is probably that concerned with stricture. The account is very full and good and represents well the practice of the present day. The authors value the urethroscope in the diagnosis of urethral conditions and an excellent coloured plate shows enlarged illustrations of the appearances presented in various morbid conditions on examination with the urethroscope. Every chapter commences with a bibliography, fairly copious, though naturally French references are more fully represented than those in other languages. After the description of the various methods of treating hypertrophy of the prostate a very sensible judgment is pronounced on their relative value. The authors believe that the perineal operation of prostatectomy is less hazardous than the suprapubic and with this opinion most surgeons will agree, but the suprapubic route is advised by the authors in cases where the intravesical projection of the gland is great and where a calculus is present, but on the whole they prefer the perineal operation.

Very judicious are the remarks on the treatment of tuberculosis of the kidney, and we concur in the opinion expressed by the authors that the disease may remain unilateral for months or even years, and therefore nephrectomy sufficiently early is indicated in most cases. The mortality after this operation is now less than 10 per cent. in the practice of some surgeons and it is recognised that the employment of recent diagnostic methods conduces to a very marked reduction in the death-rate.

We can speak very favourably of this treatise as representative of the most modern surgery of the urinary tract.

LIBRARY TABLE.

Report of the Inspector-General of Mental Hospitals in the Dominion of New Zealand for the Year 1907. By authority: John Mackay, Wellington, N.Z. Pp. 36. Price 1*s.*—The total number of the insane at the end of 1907 was 3240, the proportion to the total population being 1 in 290 exclusive of Maoris, and 1 in 302 inclusive of Maoris. These ratios are practically the same as those obtaining in this country. The proportion of admissions to the total population at the end of 1907 was 6·39 to 10,000. This is a low ratio but, apart from it, there has been an advance during the last few years. How far this is due to increased immigration, how far to a more sympathetic conception of mental hospitals as places rather for treatment than incarceration, and how far, if at all, to increased insanity, the Inspector-General finds it impossible to state with any degree of accuracy. The percentage of recoveries of admissions in 1907 was 49·67, against 42·94 in the previous year. The percentage of deaths on the average number resident during the year was 7·39. One of the factors which tend to lower the recovery rate and to raise the death-rate is the steadily increasing number of persons admitted to the hospitals in whom the prognosis is unfavourable because of advancing years. In the quinquennium 1882–86 the percentage of persons of 60 years and over was 6·07, while in 1902–06 it was 15·79. The accommodation

in the hospitals is being severely taxed. The average number resident during the year was 3136, whereas accommodation giving the cubic space desired was only adequate for 3105. The total cost per patient is £34 7*s.* 9*d.* per annum. A scheme has been elaborated, with the assistance of certain general hospitals, whereby the mental hospitals may take selected registered mental nurses for two years' training, such nurses being then allowed to sit for examination for registration as general nurses, their three years' or more training at the mental hospital being accepted as equivalent to one year's training at a general hospital.

Recherches Cliniques et Thérapeutiques sur l'Epilepsie, l'Hystérie, et l'Idiotie. By Dr. BOURNVILLE, Médecin de Bicêtre. Paris: Bureaux de *Progrès Médical*. 1907. Pp. cxc.–150. Price 7 francs.—This work consists of reports of cases of epilepsy, hysteria, and idiocy occurring in the wards of Dr. Bournville at the Bicêtre during the year 1905. It also contains chapters by Dr. Bournville on the medical education of patients suffering from the more pronounced varieties of idiocy. The chapters are illustrated by numerous portraits which, with the accounts in the text, indicate the enormous improvement which can be effected by painstaking treatment lasting over a period of years dating from the appearance of the very first sign of mental defect. The author draws attention to certain statistics showing how high a percentage of the parents of mentally defective children are alcoholic.

Report of the Inspector-General of the Insane in Western Australia during the Year ending 31st December, 1907. By authority: F. W. Simpson, Perth, Western Australia. Pp. 11. —The total insane population amounted to 630, an increase of 84 being noted, this being the largest increase which has occurred in this State. It appears that hitherto Western Australia has been in the happy position of having a proportion of insane to sane almost half of that in the rest of the Commonwealth. The Inspector-General expects the increase to continue until the mean which is found in practically all civilised countries is reached. The sudden increase of population, consisting of young, healthy people, which occurred some years ago, was the cause of the extremely low proportion of insanity, while the proportion is now increasing as the country principally gains its population by natural means. The proportion of recoveries to admissions was 28·84 per cent. The institutions are still extremely overcrowded, and although a new hospital is being built the number of patients is increasing so rapidly that the accommodation it will afford will be inadequate. The annual cost per patient is £37 19*s.* per annum.

Epitome of Urine Examination (pp. 87; price 12 annas). *The General Dispenser* (pp. 260; price Rs. 1.4). *Practical Hints on General Medicine* (pp. 48; price 10 annas). By K. S. AGNIHOTRI, Ph.G., Panhala. Kolhapur, The Mission Press. 1908.—The first two of these small books are the work of an industrious hospital assistant in India and the last contains 400 medical hints collected from various sources by the same gentleman. His own writings are better than his gleanings, though these have at least the merit of unexpectedness, as witness this reposeful aphorism: "218. LIFE, TO ECONOMIZE—The proper way to economise life is to sleep every moment that it is not necessary or desirable that you should be awake." In the section on Cancer (No. 75) the formalin treatment is described but no mention is made of radical surgery. Liberal quantities of meat, milk, rice, and so on, are recommended as the diet for Bright's disease, and amongst a certain number of useful suggestions the book contains other unfortunate statements. On the other hand, Mr. Agnihotri has written careful and practical little guides to the examination of urine and to dispensary pharmacy (including "first aid") which should be useful to the subordinate medical staff in an Indian hospital. We are sorry that he has to write in his introduction, "Many a compounder is in the habit of mixing drugs by guessing; but this guess-work is likely to produce either an increase or decrease in the dosages prescribed," a remark which might almost be called a truism.

The Case for Wages Boards. By CONSTANCE SMITH. London: The National Anti-Sweating League. Pp. 94. Price 1*s.* net.—In a recent article we considered the question of sweated industries so far as they concern sanitation, basing our remarks upon the report of the Select Committee upon Home Work. In the first half of the handbook under review sweating is considered on the wider economic basis, and the second half is devoted to an explanation of the committee's recommendations that boards representative of employers and employed shall be established to determine the minimum wages to be paid to home workers in various sweated trades. The objections to this proposal are considered *seriatim*. We are hardly concerned to discuss this solution of the problem but will say that Miss Smith has presented her case admirably. She has given a lucid explanation of the advantages to be expected from wages boards, illustrating her arguments from the experience of the Australasian communities, where such boards have been in operation for some years. By this showing the insurance of a minimum wage will certainly improve the home workers' lot by protecting them from the necessity of excessive hours of labour and by putting better food, clothing, and sanitary conditions within their reach. It will also stop the undercutting of prices by competition for work amongst the women themselves, some of whom are desperate from unemployment and ready to accept any price for their labour. The pages dealing with sweating as it is quote many well-attested examples of the evil, amongst which the most wicked is that of a collar maker who was fined over £1 for making an error in work which if done perfectly would have brought her in less than 2*s.* We commend this publication to those who wish to know more of an urgent national abuse but who have not leisure to study Blue-books and other official reports at first hand. In an appendix they will find the text of the Sweated Industries Bill which was reported to the House of Commons by the recent committee and passed its second reading last February.

Dutch Self-Taught with Phonetic Pronunciation. By Captain C. A. THIMM. Second edition. Revised by CAREL THIEME, Examiner in Dutch for the London Chamber of Commerce. London: E. Marlborough and Co. 1907. Pp. 120. Price 2*s.* wrapper, 2*s.* 6*d.* cloth.—This little book contains numerous vocabularies, an elementary grammar, phrases and dialogues, and special terms of trade, law, and motoring. It makes no claim to be complete but for its size it contains almost all that could reasonably be expected. There are a list of medical terms and a few phrases relating to medicine; some are missing that might have been included, for instance, constipation is not mentioned. The system of representing the sound of the Dutch words is simple and easily learnt.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. II., No. 3, January, 1909. London: Longmans, Green, and Co.—A good proportion of this number is occupied by the society's discussion on Heredity and Disease which we reported at some length in our last volume. In the sectional proceedings also there are many papers and case reports which we have already noticed. Of the other contributions the most noteworthy include Dr. F. Parkes Weber's case of "Hodgkin's

Disease with extreme so-called Pulmonary Hypertrophic Osteoarthropathy," the subject of which had been shown before the Clinical Section in March, 1908, and died at the end of October. Skiagrams are reproduced showing most clearly the diaphysal formation of new bone in the periosteum, and Dr. J. C. G. Ledingham contributes a careful study of the histology of the case. Dr. Weber does not agree with the old view of lymphadenoma as a generalised disease of the lymphatic tissue from the commencement, but considers the first group of glands affected to constitute a primary tumour. To the Dermatological Section Dr. T. Colcott Fox makes a Further Contribution to the Study of the Endothrix Trichophyta Flora in London, illustrated by a collection of cultures and photographs which are very beautifully reproduced. The author working with Sabouraud's maltose medium concludes that the bacteriology of this kind of ringworm in London is very similar to that enunciated by the French authority. Dr. Fox classifies his cultures in four groups, three of which correspond to the Trichophyton crateriforme, Trichophyton acuminatum, and Trichophyton violaceum of Sabouraud, whilst the fourth is indeterminate. A number of case reports follow this paper. In the Electro-therapeutical Section Dr. William Martin discusses the radiography of the Bicipital Tubercle of the Radius and Dr. Horace Manders writes on Undamped Waves of Electricity. The Laryngological, Otological, and Neurological Sections are occupied with numerous case reports. In the Obstetrical and Gynæcological Section Dr. J. H. Dauber describes a case of large Cervical Fibroid blocking the Pelvis during Pregnancy and necessitating a hysterectomy; and Dr. J. S. Fairbairn, a case in which an Interstitial Degenerating Fibroid was removed from a patient three months pregnant who subsequently carried her child to full term. Mr. W. D. Keyworth describes a fatal case of Accidental Hæmorrhage, partly concealed, with intraperitoneal bleeding from both Fallopian tubes, and in this section other papers are included which we reported at the time of their reading. In the Surgical Section Dr. W. Ironside Bruce describes the Systematic Examination of the Urinary Tract by X Rays which he is accustomed to follow and calls attention to the difficulties and limitations of this means of diagnosing urinary calculus.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 12th, 1831.

ROYAL COLLEGE OF PHYSICIANS.

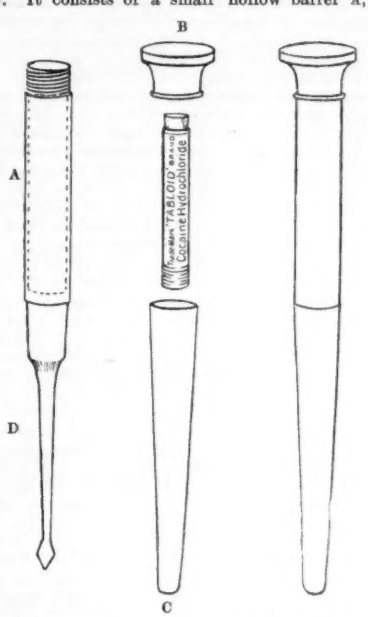
THE LATE KING.

THE first meeting of the College of Physicians was held on Thursday evening last. It was attended by a vast number of the learned and celebrated of all professions. Among the more distinguished visitors we observed the Lord Chancellor, the Archbishop of Canterbury, the Bishop of London, Earl Stanhope, Lord Tenterden, the Vice-Chancellor, the Master of the Rolls, Mr. Justice James Parke, the Attorney-General, together with many gentlemen well known in the literary world. We should think that there were present quite as many barristers as members of the medical profession. Sir Henry Halford read to his learned audience a paper, of which the subject was, "The effect of diseases upon the mental faculties." In the course of it, Sir H. Halford took occasion to speak of what course he considered it prudent for the physician to adopt towards a patient of whose recovery no hopes were to be entertained. He said, that, for his own part, he always kept in view that it was his duty to preserve the life of a patient as long as possible, and that for that reason he did not communicate to the patient himself the extent of the danger that impended him. From the friends and relatives of the patient, however, he never concealed the melancholy truth; they had a right to know the worst: but if to prolong the life of a patient were the duty of the physician, it was obviously as incompatible with that duty, as it was inconsistent with humanity, to alarm the sufferer, and to aggravate his disorder by exhibiting to his view the awful image of approaching death. The learned president then adverted, in illustration, to the case of his late Majesty. The Prime Minister, he said, had been informed as early as the 27th of April that the seat of his Majesty's disease was the heart, and that an effusion of water upon the lungs was to be apprehended. This fact, however, was not communicated to the King; nor was it deemed advisable, for the sake of the royal patient, that the information of it should be disseminated in any way from which it was likely to be conveyed to him. It was not until the month of May that he had an opportunity of explaining to his Majesty the nature of the disease; and this opportunity was furnished by the inquiries of his Majesty himself, who desired that he might be informed of the cause of the sufferings he endured. The King, upon learning the danger of the disorder, immediately prepared himself for death. Having set his house in order, he received the sacrament, and, from the administration of that holy office, declared that he had received the greatest comfort and consolation. Nothing could be more happy than this disposition of his Majesty's mind, and he (Sir H. Halford) then betook himself to explaining, as favourably as possible, every new symptom which the disorder presented. By pursuing this course his Majesty's cheerfulness was preserved, and he died without being disturbed by the prospect of approaching dissolution. Indeed, it might be said of his Majesty, as it had been said of one of the Roman emperors, that he appeared not to have died, but rather to have fallen into a deep and placid slumber.

New Inventions.

AN OPHTHALMIC VADE-MECUM.

I HAVE designed an instrument to fill the want, frequently felt by practitioners, of an appliance ready to hand for extracting a foreign body from the cornea painlessly and quickly. It consists of a small hollow barrel A, on the



top of which screws the cap B. This barrel has a cavity which exactly receives a tube of ophthalmic tabloid cocaine. The lower part of the barrel is graded off into a fine but

firm spatula with pointed end D, for the removal of the foreign body. The cover C effectually prevents injury to this part of the instrument. To make it convenient for the pocket it is made the usual size of a silver pencil—viz., 3¼ inches, and while the flat top serves admirably for a seal the whole instrument lends itself to general purposes of various utility without impairing its efficiency, and gives excuse for its constant presence.

Messrs. Burroughs, Wellcome, and Co. have made it for me neatly and well in both silver and metal at a most reasonable price.

Diss, Norfolk. EDGAR WHITAKER.

ALCOHOL AND CHILD LIFE.

ON Feb. 5th in the hall of the London County Council at Spring Gardens, London, W.C., a conference of social workers was held to consider the subject of "Alcohol in Relation to the Problems of Child Life." The Right Hon. Lord Alverstone, Lord Chief Justice of England, presided. Professor G. Sims Woodhead was to have taken part in the discussion but was unavoidably prevented from attending the conference.

This was the first of a series of conferences which, under the auspices of the National Temperance League, will be held also on Feb. 19th, and March 5th and 19th, to discuss various aspects of the alcohol question.

Mr. A. PEARCE GOULD, who opened the discussion, said that the problem which they had to consider presented so many different points of view that it was difficult to know how to select the best from which to attack the subject. One point of very great importance was the effect of drink on inheritance. Within the week he had seen a gentleman who was the sole survivor of his family and who had lost both his parents, two grandparents, and all of his brothers and sisters from the direct result of intemperance. It was impossible to conceive of a more appalling illustration of the effects of the inheritance of drink craving. Inquiry and statistics showed that drink had a disastrous effect upon many families. The effects were to be seen in all directions—in the greatly reduced birth-rate of the marriage of intemperate men and women, in the stunted stature of the infant offspring of intemperate parents, in the greatly increased mortality of the children of the intemperate as compared with the children of temperate or of abstaining parents, and in the slow development of the physical and mental powers of such children. These defects followed the children right up to manhood and he thought that the Lord Chief Justice would support the statement that children of drunken parents grew into criminals of varying kinds in proportion more than in any other class in the land. A child with this terrible inheritance did not start the race of life fairly. So far as children were concerned, no one would now say that the happiness of children depended upon alcoholic beverages or that such beverages should form part of the daily food of the child. Yet children suffered in large numbers from having alcohol given to them. Apart from the inheritance of alcoholic habits, they also suffered terribly from the effects of the alcoholic habits of their parents. The children of this land in enormous numbers were being imperfectly fed, poorly clothed, and inadequately housed to a very large extent because a large proportion of the parents' earnings were spent in an unproductive way on alcoholic beverages. Children were also handicapped by the loss of parental moral influence. Children of intemperate parents had to bring themselves up as best they could in the streets and on the floors of public-houses. The remedy was the spread of knowledge. He hoped that even yet help would come from legislation, but the great evil of drink could only be effectually overcome by the spread of knowledge. Just as we taught the children the laws of gravity and the other subjects of elementary education so we should teach them about alcohol and its evil consequences. If we taught the children about this matter they would take the teaching to their homes, but it was the children we must teach and try to save them and their future offspring.

The Right Rev. F. E. RIDGEWAY, Bishop of Kensington, said that when the history of the present age came to be written he hoped it would be referred to as the children's age. There was never a time when so much interest was taken in questions that affected childhood. The physical health, the mental efficiency, the moral character, and the religious principles of the child were questions of the most vital importance. Different agencies were working for these things in different ways, but there was a general consensus of opinion that if the nation was really to fulfil its purpose the child must be helped and instructed in high moral principles and in religion. Against every one of these efforts alcohol waged war. It was the anti-philanthropic influence of the age. It threatened every movement for the improvement of child life and yet it was responsible for the necessity of those movements. This was not a class question and he suggested that the teaching of the effects of alcohol upon the human system should be taught in every school in the land; the marriage of habitual drunkards should be prevented and mothers of the country should be converted to total abstinence. Children of habitual inebriates should be under the especial care of the State. That would be costly, but would it be more costly, he asked, than the poisoning of the stream of national life that was going on perpetually? Child life was the great fountain-head of all national life and alcohol was the poison that was polluting and destroying it.

The Right Hon. Sir JOHN GORST said that the evil effects of alcohol called for an immediate treatment, but it was surprising how little the miseries of children were balanced against vested interests. Nothing but a great upheaval of the public conscience would ever lead those who administered the laws of this country to realise their responsibility in the matter. Unfortunately the conversion of the great breweries and distilleries into limited liability companies had enormously spread the number of people interested in this trade.

After some remarks by Sir JOHN KIRK and others,

The LORD CHIEF JUSTICE said that unless the drink problem was attacked as it affected children very little good would result. More good would be done by instilling into the minds of young children that they ought to avoid alcohol in every shape than by doing anything to prevent their getting alcohol after they had acquired a taste for it. He believed the percentage of crime due directly or indirectly to drink was something like 80 or 90 per cent. He was glad the public mind was being directed to the question of heredity. The more he saw of feeble-minded people and the recrudescence of crime in boys and girls between 10 and 18 years of age the more he was satisfied that the question of heredity had not been sufficiently considered from the point of view of the education of the child. As far as possible the evil should be removed at its source so that those who came after might be better, nobler, and truer specimens of what the race ought to be. He referred to the practice of giving young children small "drops" of spirits and said that few people had any idea, unless it had been forced upon them by experience of cases coming before them, how constantly the craving for drink was set up by this practice. The drunkenness of women was a very important matter and the question of grocers' licences ought not to be overlooked. Another matter which must be considered was the miserable state in which many of the poor lived. Children must be kept out of the streets. Next to drink he knew of nothing which so much corrupted the mind of the lad or young girl as to be obliged to take their exercise or pleasure in the streets. Places of recreation must be supplied both for the children and the mothers.

PROPHYLAXIS AT THE PUBLIC EXPENSE.—At a meeting of the Frome (Somerset) rural district council, held on Feb. 3rd, it was decided to refer a suggestion by Mr. W. G. Evans, medical officer of the second district of Frome Union, that the council should undertake the cost of bacteriological examination in certain cases of pulmonary tuberculosis for the consideration of the Local Government Board. A similar course was also adopted in regard to a recommendation made by the medical officer of health, Mr. A. W. Dalby, that registrars of deaths should be compelled to send an urgent notification form to the medical officer of health, so that steps might be taken to disinfect the room, clothing, and bedding of the deceased person.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 13, 1909.

The Working of the Public Health (Regulations as to Food) Act, 1907.

THE short, comprehensive, and elastic measure, which confers upon the Local Government Board the power to make regulations for preventing danger to the public health from the importation, preparation, storage, and distribution of articles of food and drink intended for human consumption, has been in operation for a very short time, too short a time it might be thought for the results of its working to be subjected to any inquiry. But as a matter of fact a great deal of valuable work has been done already under the Act, and information from some of our most important ports shows that the first series of regulations which have been issued have been productive of genuine good and have worked, all things considered, with great smoothness. Most of our readers are aware of the gist of these regulations, at any rate of those specially directed to secure that articles of food which are unsound, unwholesome, or unfit for human consumption, and which are brought to this country by ship to any port (the port being either regarded as the place of destination or the place of deposit for transmission), shall be dealt with at that port and sent back or destroyed if they fall within a certain category. This procedure has been considered by the Government to be necessary for the prevention of danger to public health from the consumption of unwholesome food, and is, after all, much the system which has been carried out with satisfactory results for many years by the port sanitary authority in the Port of London and also in the Port of Manchester. We propose now to refer a little in detail to the regulations as to foreign meat, more particularly to what is termed officially Foreign Meat, Class I.

Foreign Meat, Class I., is the meat which is imported in the form of scraps, trimmings, or other pieces not sufficiently identifiable with definite parts of a carcass, and which has not before importation been made ready for human consumption in the form of sausage or of other manufactured article of food. In the same class are included all tripe, tongues, and kidneys treated with preservatives, and pig products which are not prepared before importation as bacon and ham and do not bear a specially approved certificate of inspection in the country of origin. Under the regulations all these meats, unless the importer can furnish proof that they are not intended for sale for human consumption, must be re-exported or destroyed at the proposed port of entry. The regulations have entailed new arrangements by the meat-inspecting authorities in the foreign countries on whom we are dependent to a large extent for our food-supply, and it is satisfactory that in most cases these arrangements have been willingly made, and that the countries concerned are taking vigorous action to secure that their meat exports to Great Britain comply with the new requirements. We should like to take an early opportunity of endorsing in the most unmistakable manner possible the approval with which such legislative measures must be regarded by the medical profession and by all sanitarians, while we should like to congratulate the country at large on the manner in which a far-reaching piece of legislation, which might easily have been vexatious in its operation, has been received. There was before the passing of this Act a legitimate trade in boned meat. We do not know with any exactness how large this trade was, but no one desires to magnify the dangers due to it, and it can be admitted readily that we are now talking of only a very small section indeed of our foreign meat-supply; but one thing is certain, the trade was increasing. Consequently we can quite understand that many purveyors were put to considerable inconvenience by the regulations under the new Act. Despite this, however, there has been among them a general acquiescence in the wisdom of the regulations which have been carried out as far as possible with due regard to the purveyors' side of the question, so that in more than one instance purveyors have themselves assisted in the operation of the law.

Of course we cannot expect the persons who desire to sell us boned meat to be so satisfied with the extinction of that branch of their trade as every sanitarian must be, but here again we find that the opposition to the Act has in most instances been temperate, and that many of our international neighbours have realised the new legislation to have its origin in scientific opinion, while recognising that our Local Government Board is fortified in its position under the Act by medical approval. There are, we know, efforts still being made in certain directions to secure that the regulations should be leniently interpreted in the interests of particular kinds of imported meat, notably "offal"—i.e., lungs, kidneys, hearts, and other organs, which it has been customary to send to this country in boxes or bags, frozen *en bloc*. Thus in the case of exports from one of our colonies it is urged that this offal should be admitted on the guarantee of the Colonial Government that the freezing and packing have been executed with the strictest possible precautions and that no organs shall be introduced into the blocks which are not absolutely above suspicion. We, for our part, trust that the President of the Local Government Board will not be persuaded to tamper with his own excellent regulations in this matter. Granted the good intentions and careful procedure of the Colonial Government in question—and we believe that this assumption is a perfectly safe one—the fact still remains that kidneys, for instance, if separated from the rest of the animal and transmitted from a distance may be a source of danger whether frozen *en bloc* or no, while such blocks of frozen kidneys could not possibly be submitted to proper inspection at the port of entry, even if allowed admission under this proviso. Foodstuffs of this character must be inspected rigidly at the port

of entry, and it is idle to give the medical officer a right of inspection which would be quite worthless. If the centre of a block of frozen kidneys were filled with dangerous matter he would not know it; he would pass the mass, and grave mischief might follow the distribution of the "dainties."

The risk of making food expensive by the drastic powers of restriction which can be exercised under the Act has been brought to our attention as one which medical men might well consider. It is satisfactory to find that no evidence is forthcoming that the application of the new Act has had any share in the recent rise in the price of meat, which began some months before the new regulations took effect, and was due to economic causes resulting in shortage of live stock in the United States and other circumstances now under inquiry by the Board of Trade Committee. Even if this were not the case, we are convinced that to get food cheap at the risk of getting it dirty is very bad economy.

Old Age and Death from a Cytological Standpoint.

IT is probable that no single discovery within the whole range of biological investigation has been more fruitful than that of the cellular constitution of living bodies first established by THEODOR SCHWANN in 1839. The conception of the cell as the biological unit served at once to simplify the problems for investigation and to open out vast fields for research which the advances in microscopical and microchemical technique effected since that time have rendered among the most productive in regard to our knowledge of the structure and functions of living organs. Indeed, it may safely be affirmed that the science of cytology, or the study of the cell, has become fundamental in almost every branch of biology. In regard to medical science the genius of VIRCHOW seized upon the conception of the cell, applying it to the study of morbid processes, thus elaborating his cellular pathology and establishing the investigation of diseased tissues upon a scientific basis. In like manner human physiology owes much to cytology and has been enriched not only on the histological side but also in the study of function by the labours of cytologists. Professor CHARLES S. MINOT of Harvard has for many years past been engaged in a study of the problems of age, growth, and death, and he has recently published an interesting book giving the results of his researches.[1] He approaches these phenomena from the cytological standpoint and endeavours to discover the laws or general principles underlying them. He starts by deprecating what he calls the medical view of old age—viz., that it is a species of disease and that it is a function of the degree of degeneration of the vascular system, a view tersely affirmed by Professor W. OSLER in the following sentence: "Longevity is a vascular question and has been well expressed in the axiom that 'a man is only as old as his arteries.'" Professor MINOT in like manner criticises the views of METCHNIKOFF that we suffer from "disharmonics," or imperfect adaptations of bodily structures to the functions of the body as a whole, and that some of these increase with age, and his further conception that the phagocytes are important factors in the disintegration associated with advancing age. Professor MINOT cogently points out that senescence is a problem of living matter in general and not merely of the higher forms of life, although its effects are more and more marked as we ascend in the scale, and, indeed, he maintains that the connexion between old age and advance in organisation is a very close one, in the sense that senescence and somatic death constitute the price which the higher organisms have to pay for their specialisation and complex organisation. It is probable that death in some of the lower organisms does not occur as a natural process but as a result of an external cause. Natural death is to be regarded as having been acquired during the process of evolution of higher organisms, the mode of its origin being that differentiation of structure and specialisation of function in cells lead to a diminution in vitality and in power of growth and to a lessened capacity for perpetuation. Death of the whole organism occurs when some essential organ or collection of cells ceases to be able to perform its necessary functions.

When we come to study the evidence upon which Professor MINOT bases his views we find ourselves face to face with experimental work on growth, development, degeneration, and rejuvenation of extraordinary interest, which is most admirably worked out and discussed in the book before us. In spite of the complexity of the subject, the experimental observations and the conclusions drawn from them are expressed in simple yet forcible language, and they merit most careful consideration, not only in virtue of their originality, but also from their philosophical and practical interest. From a careful and scientific study of the processes of growth in various animals Professor MINOT arrived at the apparently paradoxical conclusion that old age is the period of slowest decline in the power of growth, which is at its maximum in the early stages of antenatal development and declines rapidly in the early period of life and at a slower and slower rate from maturity on to old age. He finds that over 98 per cent. of the original power of growth of the rabbit or of the chick has been lost at the time of birth or hatching respectively. In illustration of the enormous capacity of growth and differentiation in early embryonic life he refers to a study of preparations of embryonic rabbits after seven or eight days of development and after 16½ days. In the former stage there is scarcely a trace of differentiation; in the latter the beginning of all the principal organs of the body can be recognised. At no subsequent period can such a rapid advance be discovered. Actual weighing of embryos preserved in alcohol showed that in the period from nine to 15 days the rabbit embryos had on an average added 704 per cent. to their weight daily, while in the period from 15 to 20 days the rate of addition had fallen to 212 per cent. In regard to post-natal growth Professor MINOT gives curves showing the daily percentage increments of weights of guinea-pigs after birth and compares them with others, showing the rate of growth of chickens and of boys and girls. These demonstrate that the rate of growth progressively lessens,

[1] The Problem of Age, Growth, and Death, a Study of Cytomorphosis, based on Lectures at the Lowell Institute. By Charles S. Minot, LL.D. Yale, Toronto, D.Sc. Oxford, James Stillman Professor of Comparative Anatomy in the Harvard Medical School. London: John Murray. 1908. Pp. 280. Price 6s.

but also that the rate of decline in the power of growth lessens, at first rapidly, but afterwards more slowly.

Having thus arrived at the fundamental conclusion that the rate of decline of growth is greatest in embryonic and early life and decreases with age, he deduces the conception that old age is merely the culmination of changes which have been in progress from the first stage of the germ, and that senescence is thus a continuous process concerning which the greatest information should be obtainable from a study of the young stage rather than of the actually senile condition. He therefore devotes special attention to the cytomorphic changes in early life with a view to determining the special features associated with senescence. He shows how from the undifferentiated embryonic cell the complex, evolved cells found in the various organs with their specialised functions are developed, and traces the whole cytomorphic cycle of the cell through its stages of increased growth of protoplasm, differentiation, regeneration, disintegration, death, and removal from the body. He arrives at the striking conclusion that the increase in the protoplasm of the cell as distinguished from its nucleus is at one and the same time the index of advancing organisation and of the loss of the power of growth, or, in other words, the stigma of advancing age. In illustration he refers to some observations of Professor EYCLESHYMER who studied the development of muscular fibres in the great salamander *Necturus*, and who found that in the process of development of muscle fibres from the earliest embryonic rudiment to the completed muscle fibre the proportion of protoplasm to nucleus increased eightfold.

This hypothesis that the increase of protoplasm is the cause of old age was originally suggested by Professor MINOT as long ago as 1890. It is obvious, however, that if the process of senescence and death of the cells of the body is constantly in progress there must exist a provision for their replacement, and in this connexion a further interesting and novel theory is propounded. Professor MINOT believes that rejuvenation is accomplished chiefly by the segmentation of the ovum. He points out that during this process the amount of nuclear material increases, since the segmenting ovum rapidly divides, so that when segmentation is complete the type of cell of which the ovum is made up is one with a nucleus surrounded with but little protoplasm. In other words, the ovum itself is regarded as an evolved or specialised type of cell from the parent—with excessive protoplasm in proportion to the nucleus; after fertilisation the process of segmentation leads to the formation of a type of cell which is young, with little protoplasm in proportion to the nucleus. Segmentation is thus a process of rejuvenation. Afterwards the protoplasm begins to grow, differentiation follows, with specialisation of function and senescence in its train. At the same time certain cells, the germ cells or sex cells, retain their primitive character and remain apart and later serve for the reproduction of the species. In like manner the power of growth is retained by certain cells in foci of growth which serve to replace structures which become degenerated or effete. These cells and those concerned in the process of regeneration of organs in lower animals are always cells of the young type. The cycle of life is thus regarded as presenting two phases, "an early brief one, during which the young material is produced, and then the later and prolonged one, in which the process of differentiation goes on, and that which was young, through a prolonged senescence, becomes old." Professor MINOT suggests an interesting means of studying the rate at which cells multiply at different stages by the estimation of what he terms the mitotic index. This is given as the number of cells in active division—i.e., showing mitotic figures—at a given moment out of a counted total of 1000 cells. He finds in the ectoderm of the rabbit embryo at 7½ days the index is 18, in the mesoderm 17, and in the entoderm 18. At 10 days the number is reduced and the figures are 14, 13, and 15 respectively, and for the cells of the blood it is only 10. At 13 days the index for the spinal cord is 11, for the general connective tissue 10, for the liver cells 11, and in the excretory organ 6. This is given as demonstration of the rapid decline in the rate of cell multiplication when differentiation is going on. In relation to the question of the duration of life, the rate of cytomorphosis is regarded as the important factor in its determination. If the series of changes comprised under cytomorpbosis—i.e., differentiation, degeneration, atrophy, and death—occur rapidly, the duration of life is short; if slowly, death is postponed to a later period. It is probable that this rate of cytomorphosis in various species of animals proceeds at different paces at different ages.

By way of recapitulation and to express his contentions in dogmatic form Professor MINOT crystallises them into what he calls the "four laws of age," which we may here quote *in extenso*. "First, rejuvenation depends on the increase of the nuclei; second, senescence depends on the increase of the protoplasm and on the differentiation of the cells; third, the rate of growth depends on the degree of senescence; fourth, senescence is at its maximum in the very young stage and the rate of senescence diminishes with age." He disarms the obvious criticism that these generalisations can hardly be accorded the dignity of established laws by the statement that his views are as yet in the personal stage, and have not so far been confirmed and correlated by other observers, and also by prefacing his statement of these laws by the conditional clause —"if my arguments before be correct we may say that we have established the following four laws of age." At the same time many of the details of cell structure upon which he bases his statements are matters of general knowledge and it must be admitted that the explanations which he offers are original, interesting, and suggestive, and are the outcome of genuine experimental work and of profound study of the subjects concerned. Professor MINOT'S book should be widely read by members of the medical profession, since it illustrates admirably the interest and importance of cytology and its practical application to every-day problems.

Some Fallacies of Statistics.

THERE are few sections of the community which have more to do with statistics than medical men and yet it may be said that as a rule we know very little of the true methods of preparing and using statistics. Medical men are by no means peculiar in their misunderstanding and misuse of statistics; there appears to be a fatal fascination about

figures—all turn to them when they need support for their theories or opinions and in spite of many mishaps they still put their trust in numbers. When the word "statistics" was first introduced it had no relation with arithmetical procedures, but at the present time the word is mainly employed in a mathematical sense. It is interesting to note that the earliest known application of the arithmetical study of statistics was made in 1661 by Captain GRAUNT who wrote a work on the Vital Statistics of London, so that from the first what we know as "statistics" had a definite connexion with the study of disease and injury. The connexion has ever since been kept up, and the valuable issues from the Registrar-General's office show to what enormous utility it can be put. But in the employment of the numerical statement of facts there are many fallacies into which the unwary may fall. We see this almost daily, for politicians of opposite views may quote the very same statistics and from them they will draw conclusions diametrically opposed. There is a proverb that "Figures cannot lie," but another popular saying that "Figures can be made to prove anything" shows that to some extent the danger of trusting to figures without due knowledge is recognised; none the less, examples of unsound deductions from statistics occur frequently, and sometimes both in medical literature and medical practice.

It was, for example, stated by a medical author that a morbid condition was twice as frequent amongst married as amongst unmarried women. This statement was based on the fact that he had had in his hospital practice 20 cases of the disease in married women and ten cases in the unmarried. To deduce from this fact that the disease is twice as common amongst married women as amongst the unmarried is quite unjustifiable. There are several fallacies here. In the first place the numbers are too small to make a conclusion of any value whatever. The relative proportion might easily be upset by a larger series of cases. In the second place, no information is given of the relative proportion of married and unmarried women in the clinique, and this is of importance, for if there were twice as many married women attending as patients the percentage of total cases affected with this malady would be unaltered. Again, are we justified in assuming that the relative proportion of married and unmarried women at the clinique was identical with the relative proportion of these two classes in the world at large? Surely not, and this, therefore, is another source of fallacy. Percentages are much misused. There is a tacit implication in the use of the word "percentage" that the number of cases concerned is large, and, on the whole, hardly less than 100. It is true that it is justifiable to use the expression with somewhat smaller numbers but the correctness of this use diminishes rapidly as the numbers dealt with grow smaller. It is almost absurd to speak of percentages when only 20 or 30 cases are being considered. We have heard of a man who claimed to have had 100 per cent. of recoveries with a special method of treating scarlet fever, but a little inquiry showed that only three cases in all had been treated. The claim to 100 per cent. of recoveries is here simply ridiculous. It reminds us of the American story of two rival journals. The *Slumpville Clarion* claimed that within the last year its circulation had doubled. The *Slumpville Independent* commented on this statement as follows: "Our esteemed contemporary the *Clarion* claims to have doubled its circulation during the past year. On this occasion the *Clarion* speaks the truth, for another man takes a copy now." All general statements based on a small number of cases are of little value, for a very few fresh cases may nullify all the conclusions hitherto drawn.

Averages provide a very plentiful supply of fallacies. For instance, the mere statement of the average age at which any disease occurs is of very little value, for it may well happen that at the average age cases hardly ever occur. If a condition, such as umbilical hernia, is common at two periods of life, as in childhood and after the age of 50 years, the average of even a large number of cases might easily work out at 25, when the condition is very rare. Further, when the extremes of a series of cases deviate widely from the means the average is useless, for a few cases differing widely from the majority will have an undue influence on the average. The ordinary average is known technically as an arithmetical average, for it is produced by adding together the members of the series and dividing by the number of members. A geometrical average or mean takes account of the relative value of the several members of the series. To take an instance, we may obtain the average mortality from a disease, say small-pox, for each year. If, then, we wish to know the average for ten years it will not do merely to add together the yearly averages and to divide the sum by ten, for no attention would have been paid to the different numbers of cases in the several years. To get the geometrical mean the number of cases in each year must be allowed to influence the weight to be given to that year's average. This fallacy caused by taking the mere arithmetical mean of a series is very common. It is not rare to find that attempts have been made to compare figures which are really incomparable, because the conditions on which the figures are based are different. The relative healthiness of two districts cannot be gathered from the death-rate unless we can be certain that certain conditions are identical. If in one district the birth-rate is very low, the death-rate, so far as it depends on the deaths of small children, ought to be low also; for the death-rate is as a rule heavy during the first five years of life. In a neighbouring district the death-rate of adults may be really lower, but if the birth-rate is high the deaths during the first five years of life may make it appear that the total death-rate is high, though this infant mortality is mainly due to causes other than the salubrity of the district. Recently it was stated that while in England a large number of inquests had been held on patients who had died under anæsthetics, in Scotland not a single inquest had been held on such a case, and from this it was deduced by the badly informed that no deaths under anæsthesia had occurred in Scotland. The fallacy is that inquests, as we understand the procedure in England, are never held in Scotland.

It is very unsafe to apply to individual cases the conclusions drawn from a large series, but this is an error into which medical men, young medical men in particular, seem especially likely to fall. The average mortality of a disease may be 10 per cent., but it does not follow that if a

medical man has ten cases of this disease one will die and the rest recover. An old story is told which illustrates this fallacy well. A patient with malignant disease of the throat went many years ago to consult a surgeon who had devoted much attention to laryngeal disease. The surgeon examined the case, gave his diagnosis, and recommended removal of the larynx. The patient expressed a fear that the operation was very dangerous. "Oh, no," said the surgeon, "you are sure to recover." "But," said the patient, "I understood that the operation was very serious indeed." "Well," said the surgeon, "my reason for saying that you are sure to recover is this: the mortality is 19 out of 20 and I've had 19 deaths already." History does not relate the conclusion and, of course, it is only a tale, but it shows well the fallacy of arguing from percentages to individual cases. The danger of the careless use of percentages is sometimes very clear in financial matters. It is related that a manufacturer supplied an article to retail dealers at a profit of 30 per cent. Later he confined his trade almost exclusively to large wholesale houses to whom he charged the same price but with a discount of 20 per cent., and for long he imagined that this price left him 10 per cent. for himself, but of course he was realising only 4 per cent. This is clear from the following. If the article cost £100, and if the manufacturer sold it at £130 net, he would make a profit of 30 per cent., but if he sold it at £130 with a discount of 20 per cent. he would receive only £104, for 20 per cent. on £130 is £26. All statistics must be employed with the greatest care, for pitfalls are numberless and the unwary must take heed. Employed rightly statistics can be of untold benefit, for they enable facts to be grasped readily which it would be hard to comprehend in any other form. We are sure that the rather ridiculous nature of the examples of fallacy which we have used to illustrate various points will not be regarded as evidence that we have the slightest doubt as to the enormous value of statistical methods properly applied.

Annotations.

"Ne quid nimis."

THE MEDICAL REGISTER.

LAST week we published an official letter from Mr. H. E. Allen, the Registrar of the General Medical Council, and in respect of the matter contained in that letter we consider that the following account of the new procedure of the General Medical Council will interest our readers. In the year 1905 the General Medical Council instituted a new system of keeping its record of registered practitioners. Up to that year a current copy of the Medical Register was corrected daily as changes of address and notices of deaths came in. Now an envelope has been prepared for every practitioner who has ever been registered. On the outside are entered the name, date of registration, qualifications, address, and the reference in the manuscript of the Medical Register; inside are placed his application forms for registration, notices of changes of address, and so on. These *dossiers* are all arranged alphabetically in two files, one for those who are now on the Register and one for those whose names have for some reason been taken off. It is, therefore, now possible to say in a moment if a person has ever been registered or not and to give at once full details about him from his papers. To arrive at this position took over three years' work and many clerical errors and duplicate entries, which mostly were made about 1859 when the entries were very numerous and there was no experience to follow, have been cleared up and corrected. Immense trouble is now taken to make the Register accurate. Every five years the election of Direct Representatives affords a means of correcting the addresses of those who reside in Great Britain and once besides during each quinquennial period circulars of inquiry are sent to every name. No practitioner ever writes to the office without his address being compared with the Register and a correction made if necessary. When letters are returned through the Dead Letter Office, although there is no obligation to do so, the names are looked up in Churchill's or Nisbet's Medical Directory, in the college lists, if available, and often in colonial medical registers, and if possible a second circular is sent in order to save the erasure. There is only one more step which might be taken to insure accuracy and that is to circularise annually, but to this there are two objections. The first is expense, for the publication of the Register already involves a dead loss of something like £300 a year: the sale to the public being small, while the Council receives nothing for the 1350 copies issued officially to the Law Courts, though, on the other hand, it does not have to bear the cost of printing and paper for these. The second is that the Register can never be perfectly correct unless Section XIV. of the Medical Act is strictly enforced—that is to say, unless practitioners' names are removed if they do not answer inquiries; if this were done every year great hardship would undoubtedly arise. Consequently, although the names of persons have been removed because inquiries addressed to them have come back through the Dead Letter Office and search has failed to enable the office to communicate with them, yet names have never hitherto been removed merely because inquiries are not answered except in the case of suspected death, and then a registered circular is always sent. The Council is in this dilemma: either it must leave on the Register the names of persons of whom no trace can be found and who, very possibly, may be dead; or it must remove these names although the person is alive. Of the two the latter seems to be the least harmful procedure, for it is always possible to restore a name which has been taken off, provided the identity is safeguarded, whereas to leave on the Register the name of a man who is dead gives an opportunity for personation. Now for the first time for 50 years, with the object not of removing the names of living practitioners but of finally clearing up all question as to those who are dead, the Council is about to enforce strictly the provisions of Section XIV. which run as follows:—

> It shall be the duty of the registrars to keep their respective registers correct, in accordance with the provisions of the Act and the orders and regulations of the General Council, and to erase the names of all registered persons who shall have died, and shall from time to time make the necessary alterations in the addresses or qualifications of the persons registered under this Act; and to enable the respective registrars duly to fulfil the duties imposed upon them it shall be lawful for the Registrar to write a letter to any registered person, addressed to him according to his address on the Register, to inquire whether he has ceased to practise or has changed his residence, and if no answer shall be returned to such letter within the period of six months from the sending of the letter it shall be lawful to erase the name of such person from the Register; provided always, that the same may be restored by direction of the General Council, should they think fit to make an order to that effect.

Circulars were posted on Feb. 1st to every registered practitioner and notices have been sent to all the principal newspapers in London, in the provinces, in Scotland, in Ireland, and in the Colonies drawing attention to the issue of the circulars and asking that, if a circular has not been received, application may be made to the office at once. Every care will be taken to avoid inflicting hardship on

individuals, but it is hoped now to put the coping stone on the work of the last four years and make the Medical Register of 1910 absolutely correct as regards every name that appears in it.

BULLETS AND THEIR VISUAL BILLETS.

IN 1901, at the close of the Boer war, Sir Anderson Critchett and Mr. J. Herbert Fisher brought before the Ophthalmological Society several cases of injury caused by bullets in the occipital region of the skull. Apart from cases of homonymous hemianopia there were three cases of altitudinal hemianopia in which the lower halves of each field of vision were blind as the result of the traumatic lesions. These cases are of great theoretical and practical interest, both on account of their comparative rarity and as elucidating the functions of the various parts of the cortex of the occipital lobes of the brain. It is an ill wind which blows nobody any good, and it is incumbent upon us to gather up such fragments of useful knowledge as may result from so disastrous a catastrophe as war. We therefore commend to the notice of medical practitioners, more particularly neurologists and ophthalmologists, the admirable monograph on the visual disturbances which follow injury of the cortical visual centres by bullet wounds recently published by Dr. Tatsuji Inouye of Tokyo.[1] In this work Dr. Inouye has gathered together and critically examined the cases observed by himself and others during the Russo-Japanese war. The number of Japanese wounded in this war reached the appalling total of 220,812 (Koike), of whom 47,387 were killed. The ophthalmic surgeons, Dr. Ono, Dr. Inouye, and Dr. Oka, observed 28 cases of injury to the cortical visual centres amongst 80,000 wounded who came under their immediate notice. Of these 28 cases there were four of typical and two of atypical right or left hemianopia, four of typical and one of atypical inferior hemianopia, three of typical and one of atypical inferior quadrantic hemianopia, one of typical and one of atypical superior quadrantic hemianopia, one of a small typical and two of probable pericentral scotoma, one of typical large inferior pericentral scotoma, one of typical inferior paracentral scotoma, one of atypical superior pericentral scotoma, two with heteronymous defect and optic atrophy, two of well-marked and three of moderate concentric constriction of the field, and one with multiple ring scotomata. Dr. Inouye has been well trained in scientific methods in Germany and is already distinguished for his pathological observations. It will therefore be readily understood that the painstaking investigation of so many cases illustrative of the lesions of various parts of the visual paths and centres cannot fail to be of great interest and value. It is true that the exact localisation has not been confirmed by post-mortem examination, but Dr. Inouye has minimised this defect by plotting out the lesions with an instrument which he calls a craniocoördinometer. This instrument has been evolved from the craniometers of Horsley, Kocher, Köhler, Krönlein, Nose, and others. It most nearly resembles the admirable instrument for experiments on animals which we owe to the constructive genius of Dr. R. H. Clarke,[2] but is less complicated. Adopting the same principles of solid geometry with three coördinates it is attached to fixed points on the cranium and localisation of any point within the cranium is calculated with only slight inaccuracy dependent upon individual variations. We do not propose to enter into the details of Dr. Inouye's results and deductions, for the book is one which will be carefully studied by those specially concerned in the question. It will suffice to state that the results are in full accordance with the views expressed by Henschen and afford strong confirmation of them. In this respect it may be well again to refer to the now famous case of quadrantic hemianopia recorded by Dr. C. E. Beevor and Dr. James Collier.[3] It will be remembered that these authors saw reason to doubt the accuracy of Henschen's deductions, but that Dr. F. W. Mott, from an independent examination of the specimens, came to the conclusion that the case strongly supported the theory. In the light of the additional cases which have so rapidly accumulated Henschen's hypothesis must be regarded as established.

[1] Die Sehstörungen bei Schussverletzungen der kortikalen Sehsphäre, nach Beobachtungen an Verwundeten der letzten Japanischen Kriege. By Dr. Tatsuji Inouye of Tokyo. With 39 figures in the text and two plates. Pp. 114. Price 6 marks. 1909. Leipzig: Wilhelm Engelmann.

[2] Brain, vol. xxxi., 1908.

LIMITS OF DISCRETION IN DISPENSING.

IN THE LANCET of April 18th, 1903, p. 1111, we made some comments on a paper by Mr. Donald McEwan on the Limits of Discretion in Dispensing. We pointed out some of the difficulties which might be experienced by dispensers when errors occurred in prescriptions. We remarked that occasionally alterations in prescriptions are absolutely necessary, and if in the exercise of his discretion a dispenser finds it expedient to modify a prescription we deemed it highly advisable that the writer of it should be informed of the fact. We further expressed the opinion that serious mistakes in prescriptions are very rare and that the practitioner, far from resenting the interference, is always grateful to the dispenser for any error which is pointed out. We have received another paper by the same writer which was read before the North British branch of the Pharmaceutical Society of Great Britain under the title "What Shall I do? A Dispenser's Dilemmas." Several examples are given of prescriptions which might properly cause the dispenser some anxiety in dealing with them. In some of the instances the writer was referred to and did not, unfortunately, always receive the inquiry in the manner which we have referred to above. One prescription was: "℞. Acid hydrocyan. dil., ℥iss. Sig., 5 drops in water three times a day when the cough is troublesome." This was prescribed for a girl aged 17 years in an advanced stage of pulmonary tuberculosis. She was the daughter of a workman in poor circumstances who lived in a small house. The dispenser had never before seen hydrocyanic acid prescribed otherwise than in mixture form. He deemed it prudent to consult the prescriber before following the written directions, at the same time suggesting that it was an unusual form in which to prescribe the drug for a patient and that there might be some risk of a mishap in giving so large a quantity of hydrocyanic acid into the hands of a person who might not appreciate the danger. The medical man did not receive the dispenser gracefully, but dismissed him with the rather curt remark, "I mean what I have written." We agree with Mr. McEwan that the dispenser was quite justified in his action. Had a tragedy occurred we consider that the responsibility would have rested with the practitioner who wrote the prescription. Several other instances are given of a similar nature which demonstrate the assistance that may be afforded by dispensers when errors of dosage occur. Incompatibility of drugs are also occasionally overlooked. For instance, Mr. McEwan gives the following: "Potassii iodidi ℥ii.; tinct. ferri perchlor. ℥iii.; inf. quassia ad ℥vi. Sig., a tablespoonful three times a day." A note was sent to the prescriber drawing his attention to the fact that iodine would be liberated owing to incompatibility with the ferric chloride. An objectionable reply was received but a postscript was added: "If it will not mix perhaps you may

[3] Ibid., vol. xxvii., 1904.

leave out the offending ingredient." Here, again, the dispenser was right in drawing attention to the error, but we do not think that he would have been justified in substituting citrate of iron and ammonia in place of tincture of perchloride of iron on his own initiative. Mr. McEwan raises another point, Can a dispenser be compelled to dispense any prescription? We know of no such law, but if the dispenser took it upon himself to refuse to make up the prescription and the patient died a careful legal inquiry into all the circumstances would have to be made. Mr. McEwan's paper is an interesting one, but we still maintain that if the dispenser uses tact and discrimination in referring a prescription about which there is any doubt to the prescriber it will only be on rare occasions that unpleasantness will arise, and it will always be to the interest of the public that a mutual feeling of trust and confidence should exist between the writers and dispensers of prescriptions.

THE SERUM DIAGNOSIS OF SYPHILIS (WASSERMANN'S REACTION).

IN the future it is not impossible that the serum diagnosis of syphilis may become of some importance, although the complicated nature of the process must limit its utility. It will not surpass in value the diagnosis based on the discovery of the spirochæta pallida, but it should be of great value in those cases in which no spirochæta can be found, for with our present methods it is unsafe to deny the syphilitic nature of a lesion merely because we have been unable to discover the specific organism in it. Dr. Konrad Hiller read a paper on the subject at the recent Australasian Medical Congress, and it was published in the November number of the *Intercolonial Medical Journal of Australasia*. Dr. Hiller gives a very clear account of the method and it may be summarised as follows. The serum diagnosis of syphilis depends on various facts. Bordet in 1898 showed that when the red corpuscles of one animal are injected into an animal of another species a substance is produced in the serum of the latter which possesses the power of dissolving the red corpuscles of the former; this substance is called a "hæmolysin" and it is found to consist of two parts, one of which, the "immune body," is not destroyed by heating to 60° C., and the other, the "complement," which is destroyed by that temperature. Both the immune body and the "complement" must be present to effect a solution of the corpuscles and in the process they both become "bound" to the corpuscles. Further, it has long been known that the injection of bacteria or their products or even other substances into animals produces "antibodies"—that is to say, substances which tend to neutralise the material injected. Any of these substances injected which give rise to antibodies may be called antigens. Bordet and Gengou, in 1901, employed the hæmolytic process to demonstrate in a serum the presence of antibodies specific to particular antigens. For in cases where hæmolysis should occur when the serum of a normal animal is employed, hæmolysis will not occur if an antibody is present to "fix" the "complement." This method is employed as a test for syphilis. First some hæmolytic serum is prepared. The defibrinated blood of a sheep is injected into a rabbit at intervals, and after ten days the rabbit is killed and portions of its serum are inclosed in small sealed tubes, which are heated to 60° C. for an hour, and thus the serum is deprived of its "complement." Secondly, a dilute solution is made of some defibrinated blood from a sheep. Thirdly, some diluted serum from a guinea-pig is taken to provide the "complement." Fourthly, the liver of a syphilitic fœtus is taken and an alcoholic extract is made, and this is diluted with salt solution. Lastly, the serum to be tested has to be obtained, and this is drawn into a capillary pipette from the patient's finger; this has to have its "complement" removed by heating to 60° C. To make the test equal quantities of these five constituents have to be taken. Half a cubic centimetre of the extract which contains the antigen, and the same quantity of the serum to be tested and of the "complement" are poured into a test-tube and put into the incubator for an hour. Then half a cubic centimetre of hæmolytic serum and the same quantity of liquid containing the red corpuscles from sheep's blood are added and the tube is put into the incubator for two hours. By the end of that time the reaction will be apparent, for if antibodies are present the corpuscles will settle at the bottom of the tube, but if they are absent complete hæmolysis will have occurred. Control tubes are essential. Dr. Hiller has employed the test in 107 cases. In three of these cerebro-spinal fluid was examined and in the others blood serum. 27 of the cases can be excluded, for they were either normal or were suffering from some other disease and they all gave negative reactions. 75 cases either gave a history of syphilis or from the clinical appearances of the lesions which they presented were diagnosed as syphilitic. In 60 of these there was a positive reaction and in 15 the reaction was negative. It is of interest to note the results in different stages of the disease. Of 15 cases of primary syphilis only five gave a positive result, while there was only one failure in 36 cases of the secondary stage. One of two cases of congenital syphilis gave the reaction but the numbers are too small to enable an opinion to be formed. It is clear that a positive Wassermann reaction has diagnostic value in cases of suspected syphilis but a negative reaction is, however, no proof of the absence of the disease—this is the view which we should also derive from the brief note on the subject furnished last week by our Berlin correspondent. It must not be forgotten, however, that there is evidence that in two other diseases—yaws and trypanosomiasis—the same reaction can be obtained; still, this fact will rarely invalidate the test.

JANUARY AT HOME AND ABROAD.

AT all the places in this country represented in the appended table the weather of last January was milder than the corresponding month of 1908, while at several of the southern resorts abroad it was colder; the difference was especially marked at Biarritz, where the mean temperature for the month, 42·4°, was as much as 6° lower than it was a year ago. In the matter of actual warmth the extreme south-west and south of these islands compared remarkably well with some of the resorts in the far south of Europe. The Scilly Isles were much warmer than Nice and Biarritz and rather warmer than Naples and Genoa, and, indeed, than the whole of Italy except the extreme south, and Torquay and Sandown enjoyed a temperature very little lower than that at the two southern French resorts mentioned. Another striking feature is that London had the same temperature at night as Florence and a mean day temperature only one degree lower. London also had less rain than Florence. It can, however, be taken as certain, without the proof of figures, that Florence caught much more sunshine and was also free from objectionable fogs. It is the rule during January for London to be milder than Paris, but it is seldom that the difference of temperature between the two capitals is so marked as it was last month. During the daytime London was 4° and at night 5° milder, and while the absolute minimum temperature at Paris showed 25° of frost the corresponding figure in London showed only 7° of frost. The Mediterranean generally was under the influence of frequent, and often strong, winds from the north and north-east, and Malta and

Algiers were considerably cooler than usual, and also experienced more cloud and rain than generally falls to their lot in January. The Riviera, although rather cool, was favoured with much sunshine, and in most places it was very dry. At Nice, it will be seen by the table, there were only two days with rain and the aggregate fall was only 0·2 inch. The month as a whole was very sunny in this country. In Westminster there were, in spite of as many as 16 absolutely sunless days, 33 hours of bright sunshine recorded, an excess of 19 hours over the average. At many spots along the south and east coasts the total number of hours was about 80,

	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean range of temperature.	Number of days with rain.	Total fall in month.
	°	°	°	°	°	°	*	Inches.
Scilly	53	36	50	44	46·8	6	12	2·50
Jersey	54	25	48	38	43·0	10	12	2·14
Torquay	54	28	47	37	42·2	10	10	1·57
Weymouth	52	38	46	37	41·3	9	8	0·81
Bournemouth ...	52	21	45	36	40·3	9	9	1·11
Sandown, Isle of Wight	56	30	47	37	42·0	10	6	1·24
Brighton	50	27	44	36	40·2	8	8	1·21
Bath	51	21	45	34	39·5	11	7	1·03
Harrogate	48	13	41	32	36·5	9	7	1·16
Buxton	49	13	40	31	35·2	9	12	2·45
Manchester	50	21	43	34	38·2	9	12	2·05
Nottingham ...	50	21	42	32	36·9	10	8	1·00
London†	52	25	44	35	39·2	9	5	0·70
Paris	53	7	40	28	34·2	12	11	1·67
Brussels	49	8	39	27	33·2	12	14	3·41
Berlin	46	9	34	26	30·0	8	9	1·00
Nice	54	28	50	36	43·2	14	2	0·20
Genoa	58	33	49	41	44·7	8	4	0·93
Florence	57	24	45	35	39·9	10	5	1·42
Rome	57	30	50	38	43·7	12	6	4·10
Naples	57	35	50	41	46·1	9	9	2·11
Malta	62	42	56	49	52·4	7	15	3·42
Algiers	68	37	59	46	52·9	13	16	3·90
Palma, Majorca ...	68	37	57	41	49·2	16	5	1·07
Biarritz	63	27	48	37	42·4	11	13	4·27
Lisbon	63	36	55	45	49·9	10	5	1·14

* A day with at least 0·04 inch.
† The London observations are taken at St. James's Park.

A WEEKLY DAY OF REST AND THE IMPERIAL SUNDAY ALLIANCE.

IN common with most of our contemporaries we have received an official pronouncement signed by the Archbishop of Canterbury, Francis, Archbishop of Westminster, and the Rev. J. Scott Lidgett, late president of the National Council of the Evangelical Free Churches, in support of the aims of the Imperial Sunday Alliance. This document reached us too late for insertion in our last issue, and as it must have come to the notice of nearly all of our readers we should fulfil no useful purpose by printing it in full. The document states that the Imperial Sunday Alliance has been constituted to promote the better observance of "the Lord's Day, commonly called Sunday." The signatories, in recalling a joint appeal which they put forward with that object two years ago, are able to write: "The large results of the combined movement to which we then drew attention have proved that we expressed the convictions of the great majority of our fellow countrymen. The facts reveal on all sides a deepening sense of the grave issues which depend upon the use or abuse of the opportunities for rest and worship presented, in the wear and tear of our common life, by this weekly interval of respite from ordinary toil. Industrial workers in every department of labour—mental not less than physical—have, with striking unanimity, testified to the necessity for safeguarding the principle of one day's rest in seven. Everywhere there is found an insistent desire for wise leadership on this question, and for such assistance as the legislature can rightly give." The outcome of this movement has been the foundation of the Imperial Sunday Alliance for which financial assistance and personal coöperation are now earnestly asked. The treasurers are Lord Avebury and Mr. Martin Sutton and full particulars of the work of the Alliance are to be obtained from the honorary secretaries, 1, Albemarle-street, W. It is not within our province to deal with the religious aspect of the question which has united in a common appeal the heads of three great divisions of Christianity in this country, but the principle that every worker in the land should have one day in each week free for his physical, mental, and spiritual rest has our unqualified support. It is in accordance with the truest traditions of Great Britain that this day of rest, so far as may be, should be taken in common upon Sunday, but the physical advantages to the whole nation which result from the employment of such Sunday labour as that of railway and tramcar or domestic servants cannot now be forfeited. We trust that the Imperial Sunday Alliance will make it a part of its programme to try to secure a day of rest in the week for all such Sunday workers, no less than to oppose in an influential manner the extension of undesirable Sunday labour.

MULES'S OPERATION AND DELAYED IMPLANTATION OF A GOLD BALL.

AN interesting communication with the above heading appears in the January number of the *Ophthalmoscope* from the pen of Dr. L. Webster Fox of Philadelphia. Mules's operation, it will be recollected, consists in the abscission of the anterior part of the eye, removal of the contents of the globe, and their replacement by a glass or metal ball, over which the sclerotic is drawn and sutured, the wound being rendered subcutaneous by drawing up the conjunctiva and suturing the edges. Dr. Fox, after witnessing this operation as performed by Mr. T. Herbert Bickerton, was so impressed by its advantages over enucleation that he determined to practise it and if possible to improve upon it. He has performed the operation on many occasions and suggests various modifications of the technique. After due sterilisation of the conjunctiva he removes the front half of the globe, packs the cavity for a few minutes with iodoform gauze to prevent hæmorrhage from the central cavity, and after evisceration removes a small triangular portion of the sclera to effect with precision and neatness the adjustment of the edges of the sclera. He then divides the tendons of all the muscles close to the globe, brings the out edges of the sclera so as to form a vertical line, and those of the conjunctiva to form a horizontal line, the needle passing through the capsule of Tenon, by which means the four recti tendons are brought into position again. A glass or gold "conformer," or shell with a central opening, is inserted under the lids and on or over the sclerotic with the contained ball, which acts as a splint to the wounds. Over the "conformer" the cavity is filled with an antiseptic powder. A moderately tight bandage is then applied and left untouched for 48 hours. These proceedings, though elaborate, seem to be well adapted to secure the co-aptation and union of the lips of the scleral and conjunctival wounds, but as a matter of fact is not their separation in almost every instance where it occurs

due to the attempt of the operator to introduce too large a glass or gold ball? It may almost be said: a small ball, good union; a large ball, failure of the operation. Dr. Fox seems to have had good results from an operation which he describes in the article which we have noticed, in which a gold ball is implanted in cases where the eyeball has previously been removed entirely. The details are thus briefly given. The eyelids are separated by a speculum, the conjunctiva is then grasped upward and inward above the inner canthus, and the tissues are well pulled out. A Beer's knife is then passed through the tissues somewhat obliquely and well down into the orbit, the opening being made large enough to receive the ball which is subsequently pushed into it behind the tissues, conjunctiva, Tenon's capsule, and so on. Through this opening a pair of curved scissors is inserted and the structures are separated from the cellular tissues round the orbit, thus forming a large pouch into which a gold, in preference to glass or silver, globe is inserted. The after-treatment is the same as in the modification of Mules's operation. The advisability of the operation seems to us to be doubtful.

THE LENGTHENING DAY.

THE lengthening of the days is a source of cheer surely to all. Dark mornings and the early curtailment of the light in the afternoons are not calculated to encourage human energy, and it has to be admitted that the influence of light on the human machine is profound. To most people there is little joy in having to leave their bed before the sun has risen, and to an equal number the rays of the sun, when the time has come for them to leave their beds, form a welcome supplement to the influences of rest. Cold makes cowards of a good many and is also a deterrent to cheerful activity, but light has probably a greater vitalising influence than has normal warmth. At all events warmth encourages the proliferation of germ life while light puts an end to it. If light can so act on germ life there is no reason why it should not act on the cells of the human organism, and also act there favourably. It is well known that light operates not merely on the surface on which it visibly falls, for there are rays which penetrate and exercise a healthy action upon the circulatory process and nutrition. Respiration, again, is improved, because amongst other things the air is all the purer and cleaner when it has been pierced by the powerful actinic rays of the sun. It is difficult, indeed, to enumerate exactly the perils from which we may be saved by this action of light, for we have yet to learn what agencies for disease swarm around us to which we might fall a prey were it not for the benignly fatal action not only of sunlight but of continual diffused light also upon pathogenic entities. Equally important is it that sunlight not only destroys the vitality of the germ but its product or toxin also. There can be little doubt that in sunny countries, in the towns of which a congested and highly insanitary state of affairs exists, the only reason why the citizens are not decimated is the fact that the sun kills the pestilence and thus compensates for the terrible disregard for sanitary principles. It is obvious that in this beneficent work time is a factor, or in other words the duration of the light, so that a greater devastation of the enemy is insured as the exposure to light is increased. Is it possible then to base the cheerful effects of lighter days upon this interesting chemical and bacteriological fact? Science would appear to decide that in the winter we live in a much more crowded bacteriological environment and in decidedly less vitalising surroundings than is the case in the summer, and the former condition is calculated to act prejudicially upon the human organism and to favour a lowering of its standard of resistance. Do we not feel this instinctively and so are constrained to bid the light of the lengthening days a hearty welcome?

THE SICILIAN CATASTROPHE: THE PLIGHT OF THE SAVED.

MANY stories have reached this country concerning the pitiable plight of the saved at Messina, and it would seem inevitable that some of the unfortunate people who did not actually lose their lives will never recover the balance of their reason. An English medical man has sent us the following interesting little note which points to the profound nervous shock that was present in many cases where no actual physical injury had taken place but where confinement among the ruins under all the horror of impending death had well-nigh exhausted the sufferer's self-control. In many of them lifted from under the ruins after a more or less prolonged sojourn in that perilous position a very high temperature was found, but scarcely were they released than they were seized with shivering as severely as if they were suffering from a tertian fever. This nervous manifestation lasted sometimes for five or six hours in spite of all the usual methods to keep the patients warm and still, such as wrapping tight in blankets.

THE TRANSMISSION AND AVOIDANCE OF SLEEPING SICKNESS.

THE Sleeping Sickness Bureau since its establishment last year in London has lost no time in the publication of information respecting the disease. Since October four printed reports have been issued, three of which have already received notice in these columns. The last report is by Dr. A. D. P. Hodges, the principal medical officer, Uganda Protectorate, and deals with the transmission of sleeping sickness in Uganda, the distribution and bionomics of *Glossina palpalis*, and with clearing measures. Dr. Hodges discusses the question whether other species of *Glossina* besides the *palpalis*—namely, *Glossina morsitans*, *Glossina pallidipes*, and *Glossina fusca*—can spread the disease. The first two of these are found in increasing numbers to the north of Uganda on the borders of the Soudan, and if sleeping sickness ever extended northwards along the east bank of the Nile into the Soudan it would in all probability be by means of one or other of these two species. So far as Dr. Hodges's own personal investigations have gone he is satisfied that none of the three species of tsetse-fly named above are likely to transmit the disease "unless occasionally and by chance, as a needle or thorn might, and under specially favourable conditions such as interrupted feeding." He does not see any need to suppose the existence of any other means of spreading infection among human beings than by the bite of the *Glossina palpalis*. There is no evidence that sleeping sickness spreads in regions where other species of tsetse-fly exist apart from *Glossina palpalis*, and the disease has not become endemic anywhere beyond the limit of distribution of that particular fly. This distribution has now been completely mapped out in Uganda, but further investigations, it appears, are necessary to ascertain the seasonal variations in number and distribution of the fly, as this is affected by the periodic alteration of conditions along the banks of lakes, rivers, and other watercourses. The clearing of bushes and undergrowth from the vicinity of landing-places, fords, and ferries is of great practical importance in preventing the glossina from making a breeding-ground near places frequented by man or near the drinking-places to which animals resort. The aim of the clearing measures is to remove all undergrowth which affords shade to the fly from sun and rain, such shade being an absolute necessity for the

fly when depositing its pupæ. A systematic method of clearing banks of watercourses is given, illustrated by diagrams. Notes on the breeding-places of glossina, and flight experiments with the fly, carried out by Dr. A. G. Bagshawe before he became director of the bureau in London, are appended to the report and are full of interest. The latest publication of the Bureau is a small pamphlet of nine pages, designed for the use of travellers and residents in tropical Africa, entitled "Sleeping Sickness and How to Avoid Infection." It contains in short and concise terms a considerable amount of valuable information, including an account of the *Glossina palpalis* with illustrations of this and other biting flies prepared from photographs taken by Dr. W. M. Graham. Some account is given of the habits and mode of reproduction of the glossina, and advice is offered as to the selection of sites for permanent residence, or for temporary camps, outside the fly range. A brief description is added of the symptoms of sleeping sickness, how to recognise the disease, what is to be done with the sick, and how natives should be instructed with a view to prevent danger should the malady develop among them. This little pamphlet will prove of great service to those who travel in tropical Africa. Copies may be had upon application to Dr. Bagshawe, the director of the Bureau, Royal Society, Burlington House, W.

RAILWAY TRAVEL IN ITALY: ITS DISCOMFORTS AND ITS DANGERS.

"AT a time," writes an Italian correspondent, "when the Association for Promoting the Influx of Foreigners into Italy is appealing to the press, British and Continental, to contradict the reports disseminated as to the risks incurred by sojourners in Italy, a recrudescence of robberies on the chief railway lines and of the disservice and consequent discomfort prevalent on all of them has most inopportunely declared itself. The transference of those lines from private to State control has not been succeeded by the much required innovations anticipated—on the contrary, there has seldom been a time when the passenger, native or foreign, has had more reason to complain of the treatment which he encounters *en route*. Unpunctuality, involving loss of connexion with other trains, prolonged delay in the 'sala d'aspetto,' hardly more chilly than the poorly-heated carriage (of the second class particularly), and very inferior viands and beverages doled out at exorbitant prices in the restaurant-car are but negligible experiences compared with the insecurity to property and even to person which the passenger has to guard against. How unsafe it is to travel, even in the 'direttissimo' (express), on so frequented a line as that between Genoa and Rome may be inferred from the fate of Signor Vittorio Vinay, a barrister in extensive practice, Piedmontese by birth but long domiciled in Rome. On the evening of Jan. 27th he entrained at Genoa and found himself the only occupant of a first-class carriage as far as Massa where, however, a young man faultlessly dressed and of engaging manners entered and took his seat opposite him. He remarked that his *vis-à-vis* had no handbag or *impedimenta* of any kind to deposit in the net and, indeed, he said as much to him in the unreserved Italian way, whereupon he was blandly assured that he (the said *vis-à-vis*) was only a commercial traveller whose 'campionario' (box of specimens) was in the luggage van and whose destination was Pisa a few stations off. 'Dorma pure tranquillo,' the youth added (that is, 'sleep soundly'), and thereupon he dropped into slumber, having first drawn the window blinds and lowered the lamp-shade. On arriving at Pisa, Signor Vinay awoke, only to find his *vis-à-vis* gone; at the same time he felt head-achy, with discomfort about the temples and throat and something of a tendency to be sick. Hastily putting his hands in his breast pocket he found his *porte-monnaie* had also disappeared (its contents were some 400 francs), with other articles; while his watch and chain (the latter of the heavy cable variety) were intact. The *chevalier d'industrie* (a 'commercial traveller' with a vengeance!) had evidently been in too great a hurry to make away with these latter—thinking himself well repaid with the pocket-book which he had reason to believe contained notes to the amount of 40,000 francs (£1600). In fact it was by the merest accident that Signor Vinay had left that sum behind—a sum of which he was to have been the bearer to a client in Rome but which, at the eleventh hour, he decided to remit by other means. How did the 'commercial traveller' come to know of Signor Vinay being the probable, if temporary, possessor of that sum? And how was he informed as to Signor Vinay's hour of departure and the particular train by which he was to go? Obviously by collusion with some '*confiderati*' not a thousand miles away from Genoa. The fact is that similar robberies, familiar enough on the French Riviera, effected, moreover, as this one was, by the adroit administration of a narcotic, are becoming all too common on Italian lines—a result of the 'extension of business' on the part of such 'commercial travellers' across the frontier, with the well-to-do (generally the English-speaking) passengers for its *clientèle*. The *industrie* in question is now one of the fine arts prosecuted with a dexterity in manipulation and a skill in anæsthesia which any fashionable dentist might envy!—its gains, moreover, being such that it can afford to pay for the information which led to Signor Vinay being selected as a victim. That gentleman on arriving, ill, impecunious, and morally as well as physically depressed at Pisa, was fain to put up at a friendly hotel, the manager of which provided him with the means of recruiting his energies and pursuing his journey to Rome. Both there and at Pisa he gave due instructions to the police; but, it is safe to say, with little or no prospect of redress—Italy being as unable to cope with her crime as with her mendicancy, both of which she has developed (in the phrase already used) into one of the fine arts."

THE COMPARATIVE ANATOMY OF THE TONSIL.

ALTHOUGH the tonsils are so frequently the subject of operative procedure they still remain organs of doubtful function and unknown nature. Like the thymus and Peyer's patches they reach their greatest development in the young. The observations by Mr. G. Seccombe Hett, which appear elsewhere in our present issue, although they add little to our knowledge of the function of the tonsil, form a most welcome and valuable contribution to our knowledge of its comparative anatomy and surgical pathology and thus provide a basis from which the physiologist and pathologist may begin their work. The primitive form of the tonsil is extremely simple; it is a pocket or diverticulum of mucous membrane, the submucous tissue of the pooket being studded with lymphoid follicles. Mr. Hett demonstrates that the supratonsillar recess represents the lumen of the primitive tonsillar pocket. In man the lymphoid tissue has disappeared from the upper or palatine side of the pocket, the plica semilunaris, between the anterior and posterior pillars of the fauces, representing the inner wall of this part of the pocket. The human tonsil is developed chiefly in the wall of the lower or lingual side of the primitive diverticulum. Perhaps from a practical point of view the most valuable result of Mr. Hett's observations is the provision of a scientific basis for the classification of the various forms of enlargement of the tonsil. The classification of enlargements proposed—viz., (1) imbedded, (2) flat, (3) projecting, (4)

hanging, (5) irregular, and (6) lingual forms—is both practical and scientific.

THE ENGLISH DEATH-RATE IN 1908.

THE provisional figures showing the vital statistics for England and Wales in 1908, which by the courtesy of the Registrar-General we were enabled to publish in our last issue, afford conclusive evidence of continued satisfactory health progress. The death-rate in England and Wales during last year did not exceed 14·7 per 1000 of the estimated population in the middle of the year, and was considerably lower than the rate recorded in any previous year since the initiation of civil registration in 1837. The marked decline in the English death-rate dates from the year 1870; the mean annual rate during the ten years 1861–70 being equal to 22·5 per 1000. The mean rate in the three succeeding ten-year periods successively declined to 21·4, 19·1, and 18·2 per 1000; and in the past eight years of the current decennium the mean annual death-rate has shown a still larger proportional decline to 15·6 per 1000. The deaths of infants under one year of age last year in England and Wales were equal to 121 per 1000 births registered, against 132 and 118 in 1906 and 1907; the mean annual infantile rate in the last eight years 1901–08, however, has not exceeded 133 per 1000, whereas in the ten preceding years the mean rate was 154 per 1000, showing a recent distinct reduction in the waste of infant life. Satisfactory as is this evidence of health progress, no one who studies in the Registrar-General's returns the varying death-rates prevailing in different counties, towns, and sanitary districts will doubt that it should prove an incentive to improved sanitary organisation and action in those administrative areas where the death-rates still show excess.

THE HISTORY OF COCA.

To the *Pharmaceutical Journal* of Jan. 9th Dr. J. Gordon Sharp contributes an interesting sketch of the history of coca. The drug first became known in Europe through the writings of Garcilaso Inca de la Vega, a student of Peruvian history who died in 1616. Abraham Cowley (1616—1667) wrote in glowing terms of the virtues of the drug, as in the following lines:—

> "Our Varicocha first this Coca sent,
> Endow'd with Leaves of wondrous Nourishment,
> Whose Juice succ'd in and to the Stomach taken
> Long Hunger and long Labour can sustain:
> From which our faint and weary Bodies find
> More Succour, more they chear the drooping Mind,
> Than can your Bacchus and your Ceres join'd.
> These Leaves supply for six Days March afford.
> The Quitcita with this Provision stor'd
> Can pass the wild and cloudy Andes o'er."

Shortly after the conquest of Peru (1524) the widely prevailing employment of this new intoxicant was a matter of anxiety to both the Church and Government of Spain. At a council of bishops held in Lima coca was condemned, after deliberation, chiefly for the reason that the Peruvians thought it gave them strength and that this idea was an illusion of the devil. But the Church, despite her strength, was powerless to put down the practice of chewing coca amongst the natives, and it is said that even many of the conquering Spaniards themselves secretly fell victims to the vice. The Government forbade the cultivation of the plant, but being unable to enforce the enactment it was annulled and an excise tax of 5 per cent. was put on the drug, the cultivation of which became a profitable source of revenue. Joseph de Jussieu in 1750 was the first to send specimens of the plant to Europe, after which but little was heard of it for a long time. Various travellers on returning to Europe recorded their observations on the use of the drug in Peru. Of these Pöppig, a German naturalist who had lived in Peru from 1827 to 1832, spending much of his time in the company of users of the drug, considered it to be injurious to the Indians, regarding its use as akin to excessive drinking or opium eating. On the other hand, von Tschudi, another German naturalist, spent a year in Peru, and held the opinion that coca was, on the whole, a blessing, for its use enabled the people to undergo fatigue, although he did not deny that cases of abuse did arise. The plant became more widely known in 1847 on the publication of Pr scott's "History of the Conquest of Peru." He stated that the leaves, dried in the sun, were mixed with lime and chewed by the natives, and that with a small supply of this preparation and a handful of roasted maize they were able to make wearisome journeys day after day without fatigue, or at least without complaint. When used in excess, however, it was said to produce all the harmful effect of habitual intoxication. In 1876 the late Sir Robert Christison published the results of some personal experiments made by himself with coca at the age of 78, and created fresh interest in the drug. The plant was so rare in Europe at the time that in one of his experiments he had only about half an ounce of the leaves at his disposal. He ascended Ben Vorlich, in Perthshire, 2900 feet above the highway, in two and a half hours, and was much fatigued. Instead of joining his companions at lunch he chewed 40 grains of the leaves, and after a rest of three-quarters of an hour he began the descent, chewing 10 grains more on the way down. He reached home free from fatigue or hunger, having fasted for eight and a half hours. In 1859 Niemann discovered cocaine, the active alkaloid of the leaves, and in 1884 the discovery of the anæsthetic power of the drug brought it into still more prominent notice and removed it from the category of empirical remedies. It is interesting to note that the name coca is a corruption of the Amyara word khoka, which means "the tree of trees." Garcilaso changed it into cuca, and from this it was altered to coca, an unfortunate change owing to its resemblance to the words cocoa and cacao.

THE TREATMENT OF WOUNDED IN NAVAL WARFARE.

THE treatment of wounded in naval warfare has been affected by the introduction of steam in a not altogether favourable manner. The bluejacket on a modern man-of-war gets the benefits of the progress in surgical science, but the circumstances in which first-aid is given are worse than they were within the old wooden walls of England. Some space was available in the roomy three-decker, but in modern battleships, which are complicated masses of machinery packed with marvellous precision into the smallest conceivable space, the difficulty of finding even a temporary sheltered spot in which to render first-aid would be almost insuperable during an actual naval battle. This difficulty is one which should be met, for the sight of a deck strewn with wounded and dying men would damp the ardour of the bravest, while the throwing the dead at once overboard would powerfully affect the feelings of the seamen. In the modern man-of-war the question of where to place a dressing station must resolve itself into a search for the best protected spot according to the type of vessel—for all men-of-war are not alike—and the more usual varieties of casualty. Some cases will occur during every action which demand immediate attention, and these must be attended to before they can even be removed. The medical officer must run risks of course in discharge of his duty, but it would be well that on every ship the most sheltered place for a dressing station were selected beforehand, so that not only can the work be done uninterruptedly but the wounded man

may be out of the zone of fresh danger. As regards subsequent treatment of the wounded, no fleet of any size, we hope, will be permitted to go into action without an attendant hospital ship in the future. Probably it would be desirable that the hospital ship should receive as her proper charge only the minor cases, capable of returning to duty after a short treatment, while a regular ambulance service could be organised from among the fast cruisers of the mercantile marine, whose duty it would be to proceed at full speed with the more serious cases to the nearest friendly port, with which communication could be kept up by wireless telegraphy. To each of these hospital transports there should be attached ambulance boats specially fitted for removing the injured from their own ships. In sailing days, when ships often remained at sea for weeks, sometimes months, after an action, it was necessary to provide some space, however inconvenient and unsuitable, for the accommodation of the sick and wounded. Under the altered conditions of the present day removal at the earliest possible time is evidently the urgent indication. The only reason that could possibly be urged against our suggestions would be on the score of expense. If, however, the highest developments of modern science are to be utilised, regardless of cost, for purposes of destruction, but are to be denied to alleviate human suffering, the claim of the present day to any real progress in civilisation breaks down.

RELIEF IN WORKHOUSE INFIRMARIES AND THE OLD AGE PENSIONS ACT.

THE local pension committee of the London County Council has dealt with 39,043 claims for old age pensions and has allowed 36,108, involving an annual expenditure of about £444,500. Its report presented recently to the Council gives interesting information with regard to the administration of the Act in the metropolis and among other matters contains what must be regarded as an authoritative statement as to the vexed question of disqualification arising out of the recent treatment of the applicant in a workhouse infirmary. The Act, it will be remembered, declares that a person otherwise qualified shall not be entitled to receive a pension, Section 3 (1) (A), "while he is in receipt of any poor relief (other than relief excepted under this provision), and until the 31st day of December, 1910, unless Parliament otherwise determines, if he has at any time since the 1st day of January, 1908, received, or hereafter receives, any such relief." Three provisos follow defining relief which for the purposes of this sub-section shall not be considered as poor relief, the first one being that "any medical or surgical assistance (including food or comforts) supplied by or on the recommendation of a medical officer," shall not be so regarded. This exception required no explanation in cases where a medical officer had attended or ordered medicine or food for a patient not received into the workhouse infirmary, but when the patient had been boarded and lodged in an infirmary for the purpose of receiving medical or surgical treatment it seemed to many called upon to administer the Act that the limits of the exception had been exceeded. Careful reading of the words quoted will show that there is something to be said on both sides, and it would be interesting to know what was in the mind of those who are responsible for the wording of the Act. If the draftsman was aware that relief in a workhouse infirmary was not meant to operate as a disqualification by those who were to introduce the Bill, he certainly might have expressed their meaning more clearly. If, on the other hand, the matter was not considered it is to be regretted and perhaps to be wondered at that the point occurred to none of those concerned. Two Government offices have enunciated divergent views upon the subject. According to the report of the London County Council's committee the Board of Inland Revenue advised that maintenance in a workhouse infirmary rendered the claimant of a pension ineligible, but the committee differed and as a test case granted a pension in the circumstances indicated. Since then the committee has been informed by the Local Government Board that it approves of the decision arrived at, and it has been supplied with a copy of a letter originally addressed to the Morpeth pension subcommittee, in which the Board expressed the opinion that if a person suffering from an illness or an accident were removed to a Poor-law infirmary for cure or treatment he would not be disqualified, such relief as he received other than surgical or medical assistance being merely incidental to such assistance. The opinion of the Local Government Board given above is described as that of the Board "speaking generally," but by the Act the decision of the central pension authority (the Local Government Board) on any question referred to it (such as the concrete test case laid before it by the London County Council) is final and conclusive.

THE ETIOLOGY OF THE PSORIATIC AND ALLIED CONDITIONS.

WE publish in another column an interesting note upon this subject by Mr. M. J. Chevers. The theory advanced in Mr. Chevers's paper is ingeniously employed to account for many of the phenomena of psoriasis, and it is in great part in accord with the views of many who favour a neuropathic origin of the disease. The tendency to attribute to nervous disturbance signs and symptoms which we cannot otherwise explain is natural, for we know but little of the cutaneous manifestations of morbid conditions of the nervous system. Mr. Chevers has evidently devoted much attention to the disease. As to the query contained in the final paragraph of his paper, the importance of trauma in inducing the outbreak of psoriasis may indeed be attributable to an action through the nervous system, but it is also possible that the trauma provides a point of entry for a parasite. The occurrence of psoriasis in revaccination is at least suggestive of an infection, for the first psoriatic patch appears at the site of the vaccination.

ENTERIC FEVER IN CHESTER-LE-STREET.

Dr. John Taylor, the medical officer of health, has issued a special report on an outbreak of enteric fever in the rural district of Chester-le-Street in 1908. From the report it appears that the outbreak began in August, reached its maximum in October, fell slightly in November, and had disappeared in December.

Number of Cases.

—	July.	August.	September.	October.	November.	December.
1908	4	10	14	32	29	5
Average number of cases per month during 10 years, 1898 to 1907	3	4·5	6·5	8	5·5	5·75

The outbreak was limited to the townships of Burnmoor, Harraton, Washington, and Usworth. In considering the causes of the outbreak Dr. Taylor arrives at the conclusion that it was due to specifically contaminated water. The rural district of Chester-le-Street has an area of 54 square miles and is supplied with water from various sources, the

Weardall and Consett water company supplying the majority of the population. The following table shows the source of the different water supplies, their distribution and the percentage of the population affected in the area of each supply:—

Name of water company.	Source of water.	—	Population supplied.	Cases.	Cases per 1000 of population supplied.
Weardall and Consett ...	Upland.	Filtered	40,000	30	0·75
Newcastle and Gateshead	Upland.	Filtered	21,500	27	1·25
Sunderland and South Shields	Deep well.	Not filtered.	6,500	28	4·30
Herrington	Deep well.	Not filtered.	3,500	19	5·42
Kibblesworth	Old drift.	Not filtered.	1,250	2	1·60
Washington Colliery ...	Pit shaft.	—	750	1	1·33
Shallow Wells	—	—	—	1	—
Imported cases	—	—	—	2	—

The Sunderland and South Shields and Herrington supplies are deep wells whose reservoirs are in the magnesian limestone. If therefore the water areas are compared, Sunderland and South Shields and Herrington being combined against all the other supplies, it appears that the incidence of enteric fever per 1000 of population supplied by the former is 4·7 and of the latter only 0·93. But 16 of the 27 cases living in the Newcastle and Gateshead area lived in the immediate vicinity of houses supplied with Sunderland water or were frequently in a position to drink Sunderland water, and if these be added to the Sunderland and South Shields and Herrington areas the attack-rate for those areas combined works out at 7·84 per 1000 of the population, as compared with an attack-rate of 0·78 per 1000 in the other water areas combined. Dr. Taylor says: "It is notorious that limestone rock is labyrinthed with fissures and that surface drainage has no difficulty in penetrating to the deepest ponds in the rock. Water from such a source underlying populous districts is always in daily danger of contamination and 20 years ago this was markedly exemplified with this same water source when a huge outbreak occurred at Herrington which was investigated by one of the Board's inspectors." Dr. Taylor points out that efficient filtration would to a great extent lessen the possibilities of these outbursts of enteric fever and in his opinion companies drawing water from a populous area should be compelled by statute to filter such water efficiently before distributing it. Incidentally, Dr. Taylor refers to the cost of an epidemic such as the one described and mentions that over and above the loss of wages by the infected head of the family, which often results in a charge on the Poor-law, there is the cost of hospital isolation which in the present instance has been at least £500.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN DERBYSHIRE.

AN interesting pamphlet has been published by the Derbyshire Education Committee containing an analysis of some of the results obtained from the medical examination of 10,057 children attending the schools under its jurisdiction during the months of August, September, October, and November of 1908. It was found that 1924 children—i.e., practically one-fifth of the total—were verminous. The proportion varied in different schools, in some being as low as 1 per cent., while in others it was nearly 75 per cent. The smaller children were found to be cleaner than the bigger ones and the boys to be cleaner than the girls. A special nurse has been appointed to deal with the question of verminous children, her duty being to point out to parents their responsibilities and to instruct them how to get rid of the vermin. About 0·7 per cent. of the children attending the schools were found to be mentally deficient, a percentage practically identical with that given for the whole country by the Royal Commission on the Feeble-minded. In 502 children the mental condition was described as dull or backward, giving a percentage of 4·9; 24 suffered from epilepsy, a percentage of 0·23; and 21 from St. Vitus's dance. Figures have been worked out in regard to the teeth of about 4,000 children, and it appears that it is quite exceptional for any care to be taken of the teeth. On the average there were 3·3 carious teeth per child. It is stated that probably few children know the use of a tooth-brush. The attention of the managers and teachers is to be drawn to this question and arrangements are to be made for the supply of tooth-brushes at cost price. In those schools where tooth-brushes are already in use the condition of the teeth was found to be more satisfactory. Other figures of interest are that 954 of the 10,057 children had defective vision, 158 defective hearing, 819 nasal obstruction from adenoids and enlarged tonsils, 82 heart disease, and 22 pulmonary tuberculosis. Attempts were made to find out in what proportion of the cases remedial measures were being taken by the parents, and as a rule this proved to be between one-fourth and one-fifth, although in a few schools every child requiring treatment has been attended to. Where such remedial measures have been taken it is, as a rule, through the family medical attendant. Only 10 per cent. of the children with defective vision have as yet been supplied by their parents with spectacles. The committee, recognising the importance of this question, suggests that some scheme must be formulated to insure the proper testing of the children's eyes and to arrange that the parents may be able to buy spectacles at cost price. The figures serve to indicate the character of the information derived from medical examination of school children and the useful and practical results which can be obtained. There can be no doubt that great benefit will accrue from this source in the direction of improving the general conditions of health during the school period of life when the parents learn to recognise the importance of the matters brought to their notice by its means.

POISONOUS METALLIC CARBONYLS.

A FURTHER contribution on the poisonous action of metallic carbonyls by Mr. H. W. Armit appeared in the November issue (1908) of the *Journal of Hygiene*. We referred to his previous work on the subject in a leading article in THE LANCET of Sept. 28th, 1907, in which he showed that the toxic symptoms after nickel carbonyl inhalation were not due to either the nickel carbonyl as such or to the carbon monoxide which is given off when the compound is exposed to air and moisture at body temperature. On the contrary, the conclusion was that the symptoms were occasioned by the absorption of the nickel set free and that nickel carbonyl poisoning is a particular case of nickel poisoning. As Mr. Armit says, the fact that the nickel is deposited over the immense surface of the lungs in a condition which is especially favourable for absorption renders a study of the toxicology of this compound of great interest. The paper is full of interesting experimental details and some excellent coloured plates are appended illustrating sections of lung, brain, suprarenal gland, and medulla oblongata from animals (rabbit, guinea-pig, and cat) poisoned by nickel carbonyl. We must content ourselves by giving a mere summary of the results obtained. In the lungs nickel carbonyl is dissociated and a compound, probably the

hydrated subcarbonate, is deposited on the respiratory surface, from which it is dissolved by the tissue fluids and is then taken up by the blood. Some of the nickel finds its way directly through the lymphatic channels into the bronchial glands. In the dissolved condition the nickel enters into complex combination with some constituent of the body. The metal is carried by the blood to the tissues, but a selective absorption is exercised by the brain and adrenals. In some cases the lungs exert a specific selection but the nickel only stays for a short time in these organs. The specific pathological changes produced are primarily a degeneration of the endothelial cells of the capillary vessels. It is possible that some further primary action is exercised on the ganglion cells in the brain and on the parenchyma cells of the adrenals. Hæmorrhages follow as the result of the fatty degeneration of the vessel walls and secondary changes result from the effects of the hæmorrhages. Nickel is excreted by the kidneys and intestines. Both cobalt and iron carbonyls act similarly, the latter, however, being less toxic than the other two. Mr. Armit expresses his acknowledgments to Dr. Ludwig Mond who rendered the investigation possible and who defrayed all the expenses which it involved, and Dr. Ludwig Mond may be congratulated, we may add, on intrusting the investigation to Mr. Armit who has made public a very successful and interesting piece of research on a problem of considerable hygienic and industrial importance.

SYMMETRICAL LIPOMATOSIS.

IN a paper by Dr. Morsaline on Symmetrical Lipomatosis published in the *Revista de la Sociedad Médica Argentina*, September–October, 1908, several cases are mentioned in which tumours consisting entirely of adipose tissue developed near or around joints affected by chronic rheumatism symmetrically on the right and left sides of the body. In one case, that of a rheumatic asthmatic woman, the buttocks and posterior regions of the thighs were affected, calling to mind the extraordinary deposits of fat seen in Bushwomen as figured in THE LANCET of Jan. 30th, p. 341. Some of the cases seen or collected by Dr. Morsaline were somewhat similar to that shown before the Clinical Section of the Royal Society of Medicine on May 8th, 1908, by Mr. Albert Carless,[1] where the adipose tumours sent out prolongations between the muscles and other organs. The cause of these lipomata appeared to be connected with malnutrition, due sometimes at least to deficiency of thyroid secretion in a subject who was perhaps alcoholic or syphilitic as well as rheumatic. Considerable success was obtained by the cautious administration of thyroidin.

LACTIC ACID BACILLI.

IN the course of an interesting lecture delivered before the Chemists' Assistants Association on Jan. 28th, Mr. W. Harrison Martindale made some useful practical observations on the preparations and behaviour of lactic acid bacilli. He said that if properly made there is no reason why lactic acid bacilli in tablet form should not keep good for months or even years. He examined various samples of commercial lactic ferments after 24 hours' cultivation. Six samples so examined gave the following amounts of lactic acid respectively: 0·738 per cent., 0·63 per cent., 0·441 per cent., 0·79 per cent., 0·558 per cent., and 0·477 per cent. Herschell has stated that the lactic acid never exceeds 1·6 per cent. even after 48 hours' incubation. The amount, as Mr. Martindale points out, depends upon the proportion of milk sugar present, the average of this substance being 4 per cent. In any case nature, he added, will not allow an optimum yield, as the bacilli kill themselves by the acid which they produce, the maximum being reached in about 36 hours. Bacillus Caucasicus is the most resistant organism to its own lactic acid. Under ordinary conditions it would appear that the average yield of lactic acid is about 0·8 per cent. The lecturer concluded by giving a sketch of the literature on the subject, especially in its therapeutic bearings, that had appeared in these columns and elsewhere.

[1] THE LANCET, May 16th, 1908, p. 1415.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE PRINCE OF WALES.

THE Prince and Princess of Wales will honour the Royal College of Surgeons of England with their presence at the delivery of the Hunterian Oration by the President, Mr. Henry Morris, on Monday next, Feb. 15th. The Prince of Wales has graciously consented to become an Honorary Fellow of the College, and the diploma of Honorary Fellowship will be presented to His Royal Highness in the presence of the Council on that day.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

WE are requested to remind intending speakers at the Sixteenth International Congress of Medicine that the manuscripts of their addresses should be despatched by Feb. 28th next, at latest date, to the office of the Congress, VIII. Esterházy-utca 7, Budapest (Hungary). We would also remind them that the subscription to the Congress is 25 crowns in Austro-Hungarian currency, which sum may be sent by post office money order to Professor Dr. de Elischer, treasurer of the Congress, VIII. Esterházy-utca 7, Budapest.

THE LONDON COUNTY COUNCIL AND INFECTED EARS.

WE learn that the Education Committee of the London County Council has recently made arrangements with the Queen Victoria's Jubilee Institute of Nurses for the treatment in their own homes of children suffering from suppurating ears. The proposal was accepted by the Council at a meeting held on Feb. 2nd. It has been found that in many cases the usual syringing treatment, requiring as it does time, care, and patience, is not properly carried out by the parents, with the result that children have become permanently deaf and there have even been cases of loss of life. A card will be sent to parents whose children are found to be suffering from the affection, telling them that a nurse will attend at the house and administer treatment after the child has been seen by a medical attendant. On the back of the card is an order to be signed by the medical man requesting the nurse to "syringe the ears of the child twice daily for the next three weeks, using only warm boracic acid lotion, and afterwards drying out and insufflating a very little dry boracic powder." After thus arranging the prescription for the medical man it seems a little uncalled for on the part of the Council to add: "It is to be distinctly understood that the nurse, if she attends your child, will act under the instructions of the doctor or the hospital authorities as the case may be, and that the London County Council will accept no responsibility for the treatment prescribed or given."

A TELEGRAM from the Acting Governor of Mauritius (received at the Colonial Office on Feb. 5th) states that for the week ending Feb. 4th there was 1 case of plague and 1 death from the disease.

THE thirty-seventh annual report of the Local Government

Board was published this week and contains, as usual, a mass of information upon public health and local administration of the greatest interest to the medical profession. The medical officer's report will, as usual, appear as a supplement shortly.

THE MORISON LECTURES.

THE first of these lectures on the Pathology of Syphilis of the Nervous System in the Light of Modern Research was delivered in the hall of the Royal College of Physicians of Edinburgh on Jan. 25th by Dr. F. W. MOTT, Director of the Pathological Laboratory of the London County Asylums and Physician to Charing Cross Hospital, its subject being

The Microbiology of the Spirochæta Pallida and its Relation to Diseases of the Nervous System.

Dr. Mott said that this organism was regarded as the specific organism of syphilis by Metchnikoff, Hoffmann, Neisser, Levaditi, Bertarelli, Shennan, and many others. Metchnikoff and Roux were the first to demonstrate experimentally the communicability of syphilis to animals and to show that the nearer the animal approached to man, the more the disease approached in its characters and virulence the human form of the malady. Thus, though other animals, especially apes and anthropoid apes, had been successfully inoculated, the chimpanzee alone reproduced with absolute certainty the human symptomatology and the blood precipitin reaction of this anthropoid approached more nearly that of man. Dr. Mott mentioned in particular the important discovery of Bertarelli that he had been able to inoculate the spirochæta into the cornea of the rabbit and had transmitted it through a series of such animals. Levaditi had used the cornea so infected with spirochætæ to produce an infection of the eyelid of an anthropoid ape. Attention was drawn to the bio-chemical changes in the fluids of the body by the Wassermann, Neisser-Brück method of serum diagnosis. Every day fresh evidence was forthcoming to strengthen the opinion that the true cause of syphilis had been discovered, and though no vaccine had as yet been successful this was no longer a hopeless outlook.

Dr. Mott gave a description of the spirochæta pallida and showed the differences between it and other kinds of spirochætæ. Schaudinn and Hoffmann proved that the spirochæta was found in all cases of syphilis but never in any other affections. It had been found on the surface of chancres and papules and also in the tissues and in the juice of enlarged syphilitic glands; it was present in the liver and spleen of an infant affected with congenital syphilis, as also in the bullæ of another child affected with pemphigus. Very careful search was necessary to discover the organisms. They were only occasionally found in the blood, but in syphilis they were constantly present in the lymphatic vessels. At the seat of inoculation the organisms underwent a rapid multiplication and definite histological changes took place before there were any indications of primary syphiloma. The organisms after local development soon reached the nearest lymphatic glands, where probably they again multiplied, setting up an adenitis. From there they might pass into the thoracic duct and a general infection of the blood-stream might take place. Lang and Dr. Mott had observed early in the disease, and even before the primary sore was healed, symptoms which pointed to meningitis, and Dr. Mott had observed many severe and intractable cases of brain and spinal syphilis which occurred within 12 months of infection. Hoffmann had shown that the cerebro-spinal fluid might be infective.

Microscopic examination showed that essentially the same tissue reactions occurred in late manifestations of syphilis as in the primary or secondary stages. Tertiary lesions were, as a rule, non-infective and hence the spirochæta pallida was absent from such or only present in small numbers in a few cases. In these lesions the organism might exist in a latent and attenuated and possibly intracellular form. It was possible that late manifestations might be the result of secondary lesions which had remained latent until raised into activity by some exciting factor (e.g., cold, trauma, toxæmia, &c.). The organism had been found in a few instances in a gumma, as of the liver, and Hoffmann inoculated an ape from a gumma which occurred in a man three and a half years after primary infection.

In Dr. Mott's opinion the spirochætæ pallidæ had more characters which linked it to the protozoa than to the bacteria. A most important feature was the great similarity of the histological lesions of the nervous tissues of chronic trypanosome infections (sleeping sickness and dourine) to syphilitic and parasyphilitic lesions. Dourine (*mal de coit*) might almost be regarded as the syphilis of equines, the histological and clinical features being almost similar to those found in man after syphilitic infection. Neisser was unable to inoculate animals by injecting the virus of syphilis into the blood or organs, but scarifying an epiblastic skin surface and rubbing in the virus gave success, and experiments with the trypanosoma equiperdum gave almost precisely similar results. As regards therapeutics, mercury and arsenic were specific for both trypanosoma and spirochæta affections, while they were not of much use in bacterial infections. Mercury, especially in the form of inunction, was specially valuable, and this might be due to its preventing the pullulation of the spirochætæ on the surface of the body, a habitat which these organisms had found particularly favourable for perpetuation of their species by transmission to another individual.

Dr. Mott then discussed the manner of appearance of a gumma spontaneously in the central nervous system long after the primary sore and apparent cure of the disease.

Bio-chemistry of Syphilis: the Importance of the Lipoids in Relation to the Living Cell and their Relation to Hæmolysis and Cytolysis.

The second lecture, delivered on Jan. 27th, dealt with this subject. Dr. Mott first referred to the nature of lipoids. This name was given by Overton to fat-like substances which were contained in the cells of all living things, both animal and vegetable. These lipoids might be divided into three groups: (1) nitrogen- and phosphorus-free cholesterin, fatty acids, and lipochromes; (2) nitrogenous but phosphorus-free cerebrosides; and (3) phosphatides containing both nitrogen and phosphorus: of these the most important were the mono-amino phosphatide lecithin and the dio-amino-phosphatide sphygmo-myelin. Until recently these lipoids were considered of little importance—e.g., cholesterin. Lecithin was known to be a constituent of red blood corpuscles, but only after the experiments on cobra venom by Flexner and Noguchi was the importance of these bodies in the action of toxins established. Munk had shown that lipoid in cells was doubly refractile when the Nicol's polarising prism was rotated, and Ambrose and Held made use of this method in order to determine the existence of the myelin sheath in the anterior and posterior roots of the embryo. Munk found that the presence of lipoid droplets in the cell was associated with dissolution of the nucleus and destruction of the cell. A lipoid substance in great abundance meant cell dissolution; the nucleus highly charged with phosphorus and the cell protoplasm broke up into a lipoid complex as a result of the nucleolysis and plasmolysis. Levaditi's experiments showed that the spirochætæ stimulated the cells to proliferate, and then, invading this bed of young cells rich in nuclein, they, by the action of some secretion or otherwise, caused these same embryonic cells to undergo lysis, so providing the necessary pabulum for their own growth. Probably the young cells were more easily attacked than the old cells, and this might account for the great number of spirochætæ in fœtal tissues.

Although it was known that the syphilitic virus induced metabolic processes whereby larger amounts of lipoids occurred in the serum and in the cerebro-spinal fluid in general paralysis and tabes, yet as these lipoids were found in the normal tissues and fluids, the specific character was manifested by quantity rather than quality. The substances which in hæmolysis played the part of antigens were lecithins, and those which played the part of antibodies were possibly complexes of cholesterin. Dr. Mott then proceeded to describe the serum diagnosis of syphilis by the Wassermann method by fixation of the complement. (An interesting paper upon this method was read at the recent Australasian Medical Congress upon which we comment in an annotation on p. 481.) Briefly it was conducted as follows. The blood corpuscles of a sheep

were injected into the circulation of a rabbit. The blood serum of the latter was thus made hæmolytic to the corpuscles of the sheep by virtue of an immune body *plus* the normal complement or cytase. The latter could be removed by heating to 56° C. for an hour. They had thus the immune body which by itself would not dissolve the washed corpuscles of the sheep. If, however, the normal serum of a guinea-pig were added, the amboceptor or immune body would link up the complement or cytase and the corpuscles would be dissolved. The second part of the experiment consisted in the deviation of the complement or its neutralisation, so that hæmolysis no longer took place when the serum of the guinea-pig was added to the immune body and the washed sheep's corpuscles. The serum to be examined was mixed in varying dilutions with a watery solution of the dried liver of a syphilitic fœtus which would contain the antigen (lipoid). A small amount of the serum of a guinea-pig was then added and the total volume made up to 2 cubic centimetres with normal saline solution. The series of tubes were then incubated at 37° C. for one hour and then the sensitised blood corpuscles were added. Incubation was carried on for other two hours and then the tubes were placed on ice during the night. The amount of hæmolysis was then estimated in each tube. Control experiments must be conducted at the same time. This method of diagnosis had yielded most valuable results and was even more trustworthy than the Widal reaction for enteric fever. Plant obtained a positive reaction in from 80 to 90 per cent. of undoubted cases of syphilis but did not obtain the reaction with the cerebro-spinal fluid in 25 cases of syphilis in which the nervous system was not affected. Almost invariably, however, the cerebro-spinal fluid of general paralytics, and to a less degree tabetics, gave the Wassermann reaction. In cases of cerebral syphilis the serum was usually positive and the cerebro-spinal fluid was negative. Of 46 cases of general paralysis investigated by Dr. Mott's assistant, Dr. J. P. Candler, and by Dr. J. Henderson Smith at the Claybury Laboratory and the Lister Institute the reaction was present in 41, or 89·1 per cent. Levaditi and Yamanvachi made a study of the diagnosis of syphilis and general paralysis by the Wassermann method, and their results were very favourable from the clinical diagnostic point of view. The serum reaction of syphilis and of general paralysis was not due to the intervention of antibody or syphilitic antigen in the usual sense of the word and had no relation to the spirochæta pallida. There was not any parallelism between the results furnished by the cytological examination and those obtained by the Wassermann method. Neisser, Brück, and Stern considered that the antigens were not identical with the living virus and that mercury and atoxyl did not destroy the antigen but injured or destroyed the spirochætæ. They stated that the serum diagnosis proved a direct association of syphilis, tabes, and general paralysis. The simpler method of Noguchi consisted in boiling the cerebro-spinal fluid with 0·5 cubic centimetre of 10 per cent. butyric acid solution and then nearly neutralising with alkali. A flocculent precipitate was obtained in parasyphilitic affections. Should the results be constant this method would be of great value on account of its simplicity.

The Application of Recent Developments in the Microbiology and Bio-chemistry of Syphilis to the Pathology of Syphilitic and Parasyphilitic Diseases of the Nervous System.

The third and concluding lecture was delivered on Jan. 29th on this subject. Dr. Mott said that parasyphilis was the term given by Fournier to those diseases of which syphilis was essentially the cause but which were not directly the result of the syphilitic virus—e.g., general paralysis, tabes dorsalis, tabo-paralysis, and primary optic atrophy—and were uninfluenced by antisyphilitic remedies. These diseases were the result of a primary neuronic dystrophy. In tabes dorsalis the spinal sensory protoneurons were affected; in general paralysis the cortical association neurons; in tabo-paralysis both were affected simultaneously or successively. The dystrophy might be a slow process of decay of the intraspinal portion of the sensory protoneurons as in tabes or a rapid decay of systems and communities of neurons of the brain as in general paralysis. The latter was a rapid process often promoted by microbial toxæmia, autotoxæmia, or circulatory disturbances. It was probable that Erb's spinal paralysis and certain cases of amyotrophic lateral sclerosis might be primary post-syphilitic dystrophies.

Dr. Mott then referred to heredo-syphilis and stated that the gravity of these affections lay in their being uninfluenced by antisyphilitic treatment. The local and general failure of development might be due to (1) direct influence of the virus on the life and growth of the tissues; or (2) indirectly to exhaustion of the specific energy of the cells of the central nervous system through altered metabolism—e.g., unloosening of lipoid into the blood as occurred in congenital syphilis. In some congenital syphilitic lesions it might be due to actual local invasion of the spirochæta. The blood of a syphilitic patient was virulent during the eruptive stage and produced the disease when inoculated into apes. The subjects of tabes and general paralysis were recruited specially from those who had suffered from a mild attack, and Dr. Mott's observations made on 500 necropsies in paralytic cases showed extreme rarity of severe tertiary skin and visceral lesions as compared with the cases of true syphilitic brain disease. Dr. Mott had never observed a case of general paralysis which showed a primary sore or a secondary rash, and Krafft-Ebing noted the same fact and concluded that every paralytic had had syphilis and was therefore immune. Neurologists generally accepted the view that tabes dorsalis and general paralysis were essentially of syphilitic origin. The serum diagnosis and the bio-chemical and microscopic examination of the cerebro-spinal fluid would in future permit of a determination as to whether syphilis was the essential cause of other functional and organic diseases of the nervous system (parasyphilitic), because every such disease occurring in a syphilitic person was not necessarily syphilitic in origin, but such disease had found a suitable soil for development furnished by the tissues devitalised by the potent poison syphilis. Dr. Mott described the changes which the syphilitic poison produced in the blood and noted that iron had no effect on the anæmia present. It might be that when the virus could not be neutralised by the defensive action of the blood serum embolic capillary effects were produced, causing papular eruptions of the skin, mucous tubercles, and meningitis. The anæmia might be due to a hæmolysis owing to an unloosening of lipoid substances from the red corpuscles, through the action of a toxic substance in the virus acting as a lipolytic ferment. Again, the anæmia might be due to interference with the hæmopoietic tissues, the red marrow and spleen being especially rich in the virus.

In discussing the etiology of tabes Dr. Mott said that the Wassermann reaction had strengthened his belief in "no syphilis, no tabes," and stated that tabes and general paralysis were both wasting affections of the sensory protoneurons in the one case and of the cortical neurons in the other. He pointed out the essential similarity between the two affections and said that in all probability there was one cause—viz., syphilis, acquired or congenital—with a number of coefficients—e.g., sexual excess, mental stress, heredity, injury, &c. The cases of tabes which occurred in heredo-syphilis were not nearly so numerous as the cases of general paralysis. It was surprising in these hereditary cases to find frequently one of the parents, and occasionally both, suffering from paralysis or tabes. Attention was drawn to the long interval, 25 years or more, before symptoms of tabes or general paralysis occurred in many heredity cases. He asked why it was that only about 3 to 5 per cent. of persons infected with syphilis subsequently suffered from degenerations of the nervous system and showed by numerous examples that in certain cases the virus might have a special neurotoxic action. If the fact were accepted that a spirochæta was the specific causal agent of syphilis, it was conceivable that there might be varieties of this organism as there were of the malarial parasite or trypanosome. More certain grounds were probably found in attributing the variation of the effects which would follow infection not to the variation of the virus but to the reaction of the individual. While there were fewer cases of severe syphilis than formerly, there were more cases of tabes and general paralysis. In Uganda the natives were previously free from the disease but now were severely affected, yet tabes was rarely seen amongst them. Levaditi had seen the spirochæta within an ovum. Although parasyphilitic affections present the most varied signs and symptoms there was one sign usually present which was for

all practical purposes only met with in parasyphilis—viz., the Argyll-Robertson pupil. No coarse random lesion would explain the constancy of this phenomenon; besides, this condition, although a sign of syphilitic infection, did not occur in true syphilitic disease. There were many reasons why the views of Lesser, Bose, and others could not be entertained. It might be supposed that there was an *inherent* aptitude for the cells of the body of certain individuals to adapt themselves readily to defence against the action of the virus in a race which had been widely syphilised for generations, and consequently a larger number would have a mild form of the disease. Cases of tabes and general paralysis occasionally arose within three years of the primary sore; possibly this might be due to an inherent hypersensibility to react to the poison. The nerve-cells were perpetual elements incapable of regeneration, and when decay set in the regressive process attacked first the fine twigs and branches, the dendrites and dendrons and the rootlets. When metabolic equilibrium was disturbed and decay set in the cholesterin complexes were thrown off in increasing numbers. This seemed probable from the fact that in general paralysis and in tabes the quantities increased with the progress of the decay. In the earliest stages this process of decay would manifest itself by an increased irritability and functional activity of the nervous structures, often manifesting itself in a hyperæsthesia sexualis and not infrequently in striking intellectual activity, followed in each case by exhaustion and loss of function.

The lectures were attentively listened to by a large audience and at the conclusion a hearty vote of thanks was accorded to Dr. Mott.

THE FOOD OF ELEMENTARY SCHOOL CHILDREN.

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IN a very large measure our methods of feeding are archaic. We eat much the same food as our forefathers, it is cooked in much the same way, and in many instances we commit the same errors. This comes about because we pick up our methods of feeding at our parents' table and few have any idea why it is that they eat certain kinds of food under certain conditions. As a matter of fact, we are all prone to eat what we like rather than what is good for us, and as a rule there is an utter disregard of all food values.

Surely in these days when so much attention is given to other hygienic subjects the time has arrived when the knowledge of food values, both from a nutritive and economic point of view, should be regarded as one of the conditions of elementary education. Haphazard methods of gaining knowledge are never good and do not tend to make for progress. There can be little doubt that as a nation we feed badly, which, however, is not the same thing as being badly fed, and this applies more especially to the poorer and working classes. For the purpose of obtaining some definite information on the kinds of food taken by the poorer classes some 1000 breakfasts and 1000 dinners were examined. The constituents of these meals were obtained by the teachers at different schools asking the children to write down what they had for dinner and breakfast each day. The number of individuals questioned was close upon 500, as in some cases a series of meals was taken during a whole week. The children interrogated ranged from six to nine years of age. The schools selected were in the north, east, and central London areas. The period of the year was February. Although too much reliance cannot be placed upon the statements of children, yet the analysis of the material collected gave at least some insight into the food and method of feeding used by the working classes.

Looking at the breakfasts first, it was found that whilst 61·2 per cent. of the children have bread and butter, and butter includes margarine, only 9 per cent. have bread and dripping. Bread and jam or marmalade, or material of that character, was taken by 12 per cent., and cake by 6 per cent. Bread alone was the sole breakfast food of 1 per cent. Some form of animal proteid was taken by 14·5 per cent., bread and milk by 2 per cent., and only 3 per cent. partook of cereal food. With regard to beverages taken, tea constitutes 84 per cent., coffee 4 per cent., cocoa 9 per cent., and milk 2·8 per cent. The analysis of these breakfasts brings out clearly one or two points. It is evident that the mother does not appreciate that bread and dripping is as nutritious as bread and butter, and much cheaper, for dripping must be to hand in more than nine out of every hundred homes, especially in these days of cheap meat. The utility of sugar as a substitute for fat is in some measure realised but its use is somewhat restricted on the ground of cost. The influence of cost is shown, too, in the limited use of bread and milk, milk being a dear food. The chief point which is brought out, however, is that cereals are not in favour with the working classes as a breakfast food. This can be accounted for on several grounds. First, the English matron cannot, as a rule, cook oatmeal in such a way as to produce a palatable dish. Secondly, good nutty flavoured oatmeal is not easily obtained in the poorer districts of London, for by being kept it often has a bitter taste. Thirdly, it is not generally known that oatmeal contains a large proportion of fat, and with milk forms an almost complete diet. It is evident, too, from the above figures that breakfast is not regarded as a proteid meal, though the reason for this is difficult to explain save on the ground of cost.

On examining the dinners it was found that 88 per cent. had an animal proteid constituent, or if cheese and batter pudding be excluded 84 per cent. Potatoes were taken by 63 per cent., and 22 per cent. had in addition one or more vegetables. Cereals in some form were taken by 10 per cent., the pulses by 2·3 per cent., and tart or pudding by 20 per cent.; pickles by 2·5 per cent. With regard to beverages, tea or coffee was taken by 8·5 per cent. There was an absence of proteid in the case of 7 per cent. These figures appear to indicate that on the whole there is little deficiency of nitrogenous food, but some of the individual dinners show pretty conclusively that there is little or no conception as to the part played by proteid. Cheese is taken about as often as the pulses. The former is looked upon as an adjunct or something to fall back upon, and it is open to doubt whether the suggestion that cheese might often replace meat would be met with anything but ridicule. The pulses are nearly always taken in addition to animal proteid and not as a sparer. The cereals are usually taken as some sort of pudding or after dish. The chief source of carbohydrate appears to be the potato which is in some measure supplemented by bread. Tea and coffee is in some measure replacing beer which in the whole series was not once mentioned. The disappearance of beer is good but the benefit is depreciated by the substitution of tea and coffee. On subjecting the non-vegetable proteid to further analysis, meat and egg constitute 72 per cent.; soup or stew, 22 per cent.; fish, 8 per cent.; and cheese, 2 per cent.. Of the different kinds of meat, 24 per cent. consisted of beef in the form of joint, and 12 per cent. chop or steak; sausage, 6 per cent.; rabbit, 9 per cent.; pork, 9 per cent.; bacon, 2 per cent.; liver and bacon, 2 per cent.; mutton as joint, 15 per cent., and meat pudding or pie, 8 per cent. Brawn, ham, and tripe together constitute about 5 per cent. of the meat.

There can be little doubt that the great mass of our population is entirely ignorant of even a fundamental knowledge of the meaning of the term "food." The majority look upon the meal as something to eat, and indeed often express themselves in such terms. The statistics given above give some evidence of this but it is brought out more clearly by some of the actual meals selected at random from the collection. Such dinners as meat, biscuits, pudding and milk; pea-soup and custard; potatoes and rice; two eggs, bread and butter—all point in the direction of lack of knowledge rather than in that of insufficiency of material. Haricot beans and bread and butter, which was the dinner of one child, constituted a cheap but dietetically sound meal if given in proper proportions. So, too, where the diet is more abundant. The same evidence of lack of knowledge is to be seen as in such a meal as the following: ham, beef, tongue, bread-pudding, bananas, and tea. Hereby all the lists of dinners given by the children show strong evidence of Sunday being regarded as the weekly feast. The Sunday dinner is invariably the one with the greater variety of food, with the largest proportion of animal proteid, and is nearly always hot.

Though the above figures are open to several objections, such as the questionable veracity of children and the comparatively small number of meals, yet they are able to show in some measure that the poorer constituents of our population require better knowledge of the meaning of food and food values. It is necessary that the worker should know that whilst he is able to buy a meal it can nearly always be physiologically complete. That is to say, if he can give his children bread and jam for dinner he can give them bread and a small quantity of cheese which is better. He should know, of course, why it is better. The only way in which this knowledge can be imparted is by giving elder scholars a course of instruction in elementary dietetics. As in all such cases, it is futile to attempt to induce parents to alter the methods they have employed for years. The proper place for such instruction is in our elementary schools, which are beginning to be regarded as places where the young may be founded in knowledge which shall equip them in the life struggle and not solely as a means to help them to rise in life.

Such knowledge of food and feeding should be of great benefit to the individual and the matron from the point of view of both economy and physical development. It would be far better to teach children what to eat and why they should eat it rather than how to cook dishes they will never taste.

THE THIRD INTERIM REPORT OF THE ROYAL COMMISSION ON HUMAN AND ANIMAL TUBERCULOSIS.

THE Royal Commission which was appointed in 1901 to inquire into the relations of human and animal tuberculosis has issued its third interim report, dated January, 1909. We may recall that the first report appeared in 1904 and served as a timely warning against any relaxation of administrative precautions in regard to tuberculosis in animals used for the milk- or food-supply, in view of Professor Koch's pronouncement that human and bovine tuberculosis were unrelated infections. The report was signed by the late Sir Michael Foster, who was the original chairman of the Commission, Professor G. Sims Woodhead, Dr. Sidney H. C. Martin, Sir John McFadyean, and Dr. E. J. Steegmann, the secretary of the Commission. The same Commissioners were responsible for the second interim report which appeared in 1907 and which expressed the conviction that human beings, and especially children, can be infected with bovine tuberculosis, and that in the majority of such cases the infection takes place through the medium of cow's milk. We print the present report in full and it will be seen that it is signed by the same gentlemen, except that Sir W. H. Power, K.C.B., has been appointed chairman in place of the late Sir Michael Foster.

REPORT.

We, your Majesty's Commissioners, appointed to inquire and report with respect to Tuberculosis:—

1. Whether the disease in animals and man is one and the same;
2. Whether animals and man can be reciprocally infected with it;
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission;

humbly submit the following Further Report containing an account of certain experiments we have carried out regarding the Infectivity of the Milk and Fæces of Naturally Infected Tuberculous Cows, that is, Cows that had contracted the disease in the ordinary way.

We wish to take this opportunity of expressing our deep sense of the great loss caused not only to ourselves but also to the whole country by the lamented death of Sir Michael Foster, the late Chairman of this Commission.

Since the date of our Second Interim Report the work of the Commission has been mainly directed to determining the special characters of the bacilli which are the cause of tuberculosis in animals other than the cow, and the relationships of the different types of tubercle bacilli which we have encountered in man and certain of the lower animals. The investigations bearing on these and other matters referred to in that Report as engaging our attention are not yet complete and the publication of the results obtained must therefore be postponed.

In the meantime we have thought it advisable to describe the results of a series of experiments which have been carried out by us with a view of obtaining information regarding the excretion or discharge of tubercle bacilli in the Milk and Fæces of tuberculous cattle.

In our Second Interim Report we expressed the opinion, as a result of our investigations, that a very considerable amount of disease and loss of life, especially among infants and children, must be attributed to the consumption of cow's milk containing tubercle bacilli.

Tuberculosis involving the udder is comparatively common in cows, and in such cases their milk always contains tubercle bacilli and is therefore dangerous for human beings consuming it. It was, however, undecided what is the danger, if any, attaching to the milk of tuberculous cows in which the udder presents no evidence of disease. We therefore took the opportunity of making a number of observations and experiments bearing on this point. The experiments were made with the milk of cows which had contracted the disease in the natural way.

In natural tuberculosis in the cow, cases which show such obvious symptoms of the disease as emaciation and cough should be considered separately from the cases in which there are no such signs and in which the disease is to be recognised during life only by means of the injection of tuberculin.

None of the cows investigated showed any sign of disease of the udder during life, and in all, after slaughtering, the udder was carefully examined for tuberculous lesions and tubercle bacilli. No tuberculosis was found except in one case (Cow F) in which one quarter of the udder showed four small nodules. These could not possibly have been detected during life.

We found that the milk of the cows obviously suffering from tuberculosis (see Appendix; Cows B, C, and F) contained tubercle bacilli whether the milk was obtained in the ordinary way or was withdrawn from the teat by means of a sterilised catheter. The presence of tubercle bacilli in the milk of cows clinically recognisable as tuberculous confirms the opinion we expressed in our Second Interim Report that the milk of such cows must be considered dangerous for human beings.

The experiments which we have carried out with regard to the infectivity of the fæces of tuberculous cows were dictated by knowledge of the fact that dirt of various kinds from cows and the cow-shed is almost constantly present in milk as it reaches the consumer. Cows suffering from extensive tuberculosis of the lungs must discharge considerable numbers of bacilli from the air passages in the act of coughing, and some of the bacilli thus expelled may find their way into the milk. But our experiments indicate that the excrement of cows obviously suffering from tuberculosis of the lungs or alimentary canal must be regarded as much more dangerous than the matter discharged from the mouth or nostrils. We have found that even in the case of cows with slight tuberculous lesions tubercle bacilli in small numbers are discharged in the fæces, while as regards cows clinically tuberculous our experiments show that the fæces contain large numbers of living and virulent tubercle bacilli.

The presence of tuberculous cows such as B, C, and F in company with healthy cows in the cow-shed is therefore distinctly dangerous, as some of the tubercle bacilli which escape from their bodies in the excrement are almost certain to find their way into the milk.

The experiments are described in detail in the Appendix attached to this Report. They were carried out by Dr. F. Griffith under our supervision, and we desire to express our high appreciation of the skill and care devoted by him to the work.

(Signed) W. H. POWER, Chairman.
G. SIMS WOODHEAD.
SIDNEY MARTIN.
J. MCFADYEAN.
RUBERT BOYCE.

EDWARD J. STEEGMANN, Secretary.
January, 1909.

Following this report is an Appendix which describes the results of inoculation and feeding experiments made with the

fæces and milk of six naturally tuberculous milch cows. We quote in full Dr. Griffith's description of the methods employed in the inquiry.

For the purposes of the experiments a considerable quantity of fæcal matter was required, and in order to avoid risk of contamination from the genito-urinary passages the following method of collection was employed. The action of the rectum was stimulated by the injection into it of air through a sterile glass tube and the fæces were received directly into a pail which was applied to the margin of the anal orifice. These precautions were necessary as in one case, B, there was a purulent discharge from the vagina and the post-mortem examination in three cases, B, C, and F, revealed extensive tuberculous disease of the uterus. A portion of the fæces was rubbed up in a mortar with sufficient salt solution to moisten it and pressed through muslin to form an emulsion. This emulsion was used for the feeding and inoculation of guinea-pigs. The inoculation of fresh fæces into guinea-pigs frequently causes death within a few days and it was possible to estimate roughly a minimal fatal dose of the emulsion which was prepared each day in the same way. It was found that 0·5 cubic centimetre of the emulsion almost invariably caused death from acute peritonitis, while after the inoculation of 0·05 cubic centimetre all the animals survived. The intraperitoneal method of inoculation was almost exclusively used.

The infectivity of the fæces was also tested by feeding guinea-pigs and swine. The swine were young animals about 11 weeks old, belonging to three litters and all obtained from the same farm. They were all tested with tuberculin before being used for experiment and gave negative results in each case. Two animals were kept as controls, one from each of two litters, and when killed were found to be free from tuberculosis. No control to the third litter was kept, but all the eight pigs belonging to it though used for experiment were quite healthy when killed.

The milk of five of the cows, B, C, D, E, and F, was tested for the presence of tubercle bacilli and strict precautions were taken to insure absence of contamination during its collection. A metal catheter, connected by pressure tubing to a flask, was inserted into the milk sinus of the udder, a separate apparatus being used for each quarter, and the milk was withdrawn from the udder by the exhaustion of the air in the flask. Before the insertion of the catheter each teat was washed with a solution of perchloride of mercury and with methylated spirit, and the opening was inspected to insure that no fæcal matter was pushed in with the catheter.

The milk thus obtained was tested as to the presence in it of tubercle bacilli by the inoculation of guinea-pigs and occasionally of rabbits. Two guinea-pigs were inoculated intraperitoneally from each quarter and each animal received, when sufficient milk was obtained, a dose of 10·0 cubic centimetres of uncentrifuged milk plus the deposit of 20·0 cubic centimetres of centrifuged milk, or sometimes 6·0 cubic centimetres plus the deposit of 24·0 cubic centimetres. In the case of three cows young swine were fed in each instance with the milk from the different quarters mixed together.

The experiments upon the cows B, C, F, A, D, and E are next described. The first three of these animals showed clinical evidence of tuberculosis but in none of them during life could any tuberculous disease of the udder be discovered. The cows A, D, E were all in good condition and showed no clinical signs of the disease but its presence was proved in each of them by the tuberculin test and ratified by post-mortem examination. A summary of the experiments performed on cows B and D, one from each class, will suffice to indicate the lines of the inquiry.

Cow B was a shorthorn with general tuberculosis and well-marked clinical symptoms. She had borne a calf with disseminated tuberculosis four weeks previously. A fæcal emulsion from this cow was used to inoculate 25 guinea-pigs. Of these, eight succumbed to acute infection, one showed no tuberculosis when killed after 27 days, the remaining 16 were found to be tuberculous after four weeks. The dose of fæcal emulsion was very small in each case, usually 0·05 cubic centimetre. Other guinea-pigs were fed with 50 times this dose of emulsion but none became tuberculous. Four swine were fed with the fæces mixed with sterilised milk for eight days and when killed after periods varying from 63 to 100 days all showed generalised tuberculosis. In another series of experiments with Cow B 10 cubic centimetres of her milk were inoculated into each of 56 guinea-pigs each day for a week. Only one showed tuberculosis as the undoubted result. The cow was then inoculated with 20·0 cubic centimetres of tuberculin which made her ill, and 43 hours later her milk caused tuberculosis in seven out of eight guinea-pigs inoculated with it. Three young pigs fed with her milk remained healthy.

Cow D was fat and in good condition. The ante-mortem diagnosis of tuberculosis was based on a positive tuberculin test. Post mortem she was found to have discrete tuberculous nodules in the lungs and caseous bronchial and mediastinal glands but to show no other tuberculous lesions. 11 guinea-pigs were inoculated with her fæcal emulsion and two became tuberculous, two showed a few omental tubercles, and seven remained healthy. Two out of three rabbits inoculated developed tuberculosis. Two swine were fed for 14 days with the fæces and when killed after 79 and 99 days were found to be healthy. The milk was collected by catheter on each of eight days and was inoculated intraperitoneally into guinea-pigs; in all, 60 guinea-pigs were used. None developed tuberculosis, although in several of them the omentum contained a few translucent whitish foci, in which a few acid-fast bacilli were demonstrated in smear preparations. These bacilli did not cause tuberculosis when injected into guinea-pigs.

The following summary of these experiments is interesting:

The fæces of the five naturally tuberculous cows, out of the total number of six so far investigated, were found to contain living and virulent tubercle bacilli. Three of these animals, Cows B, C, and F, were severely diseased and were eliminating large numbers of tubercle bacilli; this was shown by the occurrence of tuberculosis after the inoculation of very small doses of fæcal matter in all but one of the guinea-pigs which survived a sufficient length of time, and by the fact that all the swine fed became tuberculous. Two of the cows, A and D, were in apparently excellent condition of health. One, Cow A, showed after death a caseous and cystic posterior pharyngeal gland, a few small nodules in the intestine, and slight disseminated tuberculosis. The fæces of this animal caused tuberculosis in one out of four swine fed; the other three swine and all the guinea-pigs inoculated remained healthy. The other cow, D, had tuberculosis of the lungs, bronchial and mediastinal glands, without any disease elsewhere. The fæces of this animal caused tuberculosis in three guinea-pigs and two rabbits; two swine fed remained healthy. The fæces of the sixth cow, E, which had slight tuberculosis of the lungs and a mediastinal gland, did not give rise to tuberculosis in any of the animals inoculated. Four, Cows A, B, C, and F, out of the five cows which gave positive results showed some tuberculosis of the alimentary tract, but in at least one case, Cow C, it was not sufficient to account for the large numbers of tubercle bacilli in the fæces. These bacilli must have been coughed up from the lungs and swallowed.

Tuberculosis was present in the uterus of each of the severely infected cows and the uterine discharge contained numerous tubercle bacilli. Such a condition constitutes another source of infection.

The milk of two of the cows, B and C, caused, though not invariably, tuberculosis in guinea-pigs inoculated with relatively small doses. The milk was withdrawn from the udder by catheterisation, and post-mortem examination of the udders revealed no macroscopic evidence of tuberculosis. Small pieces were examined histologically by Dr. Eastwood and were found to be normal, but it is, of course, impossible positively to exclude microscopical lesions. The milk of a third cow, F, caused severe tuberculosis in every guinea-pig which lived a sufficient period of time after inoculation. The udder, except for four small nodules in the left hind quarter, was normal to the naked eye; the animal was very ill at the time the milk was collected. The milk of the remaining two cows, D and E, tested did not give rise to tuberculosis in any of the animals inoculated.

The Appendix concludes with full notes of the post-mortem examinations of the naturally infected cows, and of the details of the inoculation and feeding experiments with guinea-pigs and swine.

BRITISH MEDICAL BENEVOLENT FUND.

THE Bishop of OXFORD delivered an address in support of the British Medical Benevolent Fund on Feb. 9th, in the library of the Royal College of Physicians, Pall Mall East, at a meeting of the friends and subscribers to the Fund with Sir JOHN TWEEDY, President of the institution, in the chair. Before the Bishop of Oxford spoke, Dr. SAMUEL WEST, the honorary treasurer of the Fund, made a statement on its aims and objects and described how the work had been carried on since the Fund was inaugurated in 1836, since which time £70,000 had been collected and distributed in grants varying from £5 to £20, and something over £80,000 had been expended on annuities of from £20 to £26. The object of the Fund was the relief of medical men and their families under severe and urgent distress caused by sickness, accident, or other calamity. In cases where distress was temporary relief was afforded by means of grants and where distress was permanent through ill-health or old age the plan of providing annuities was followed. Last year over £2000 were devoted to grants, but unfortunately that sum fell far short of the requirements, many deserving cases having to be passed over or inadequately relieved. Cases came from Great Britain and sometimes from the colonies. It was evident that the sums granted were not large enough to deal successfully with the necessities of certain cases and in order that larger sums might be provided when required an emergency fund had been started. He emphasised the fact that the British Medical Benevolent Fund stood as a bulwark between the benevolent public and impostors such as begging-letter writers. All the cases were carefully inquired into with the assistance of the Charity Organisation Society and the list of cases was revised annually. These investigations were carried out privately and the methods employed rendered canvassing unnecessary. It was extremely difficult in these circumstances for impostors to obtain money from the Fund. The working costs amounted to less than 7 per cent. of the sums distributed, so that any money contributed was spent on the object for which the charity was founded.

The Bishop of OXFORD said that the British Medical Benevolent Fund was most deserving of support. When the conditions of the career of the medical man were considered it was found that there was no profession in which a man was compelled, without any choice of his own and without any chance of escape, to run a greater risk of inevitable impoverishment for himself and his family than in the medical profession. By the time a man had qualified to seek for practice he had spent a very large sum on his education, in fact it might be said that in the majority of cases he had spent all

the capital he was able to get together. In a great number of cases the medical man commenced his work with a heavy debt already incurred. From the very first he had to make a considerable outlay for the sake of keeping up appearances. He must live in a good house in a good position, and medical men shared with clergymen the necessity of spending a good deal on clothes. In his attire he must exhibit a chastened expenditure. He must not be what is called "smart," but he could not afford to be casual or indifferent in his dress. The medical man was often constrained to go to the expense of a carriage or a motor-car, for everybody knew that a doctor who walked to see his patients would find but few. It had been affirmed that the medical man who was free of debt by the time he was 40 years of age was a lucky man. In addition to all these considerations there was the question of health; as a matter of fact, everything depended on the health of the medical man; in short, he risked his all upon his health, for without that his other assets such as professional education, medical skill and insight, and recommendations were quite useless. In this manner, starting generally with a great burden of anxiety which was not conducive to a man's health, the doctor incurred many risks, for his work exposed him to these. He had to be out at all hours of the day and night; his meals were often irregular and sometimes scanty; he was exposed to all kinds of weather, to many kinds of infectious diseases, and for years he might have to toil on without even a short spell of rest. The Bishop of Oxford concluded his address with an earnest appeal to the general public, who owed so much to the medical profession, for increased support to the British Medical Benevolent Fund.

The LORD MAYOR of LONDON expressed his warm sympathy with the objects of the Fund and stated that the family doctor was regarded in time of trouble and distress not merely as a medical adviser but as a true friend. The public also must remember that a deep debt of gratitude was due to the medical profession for the help it had rendered in the successful work carried out by the Corporation and City of London through its medical officers for the prevention of disease. In return for the benefits which the medical profession had conferred on the country he considered that the State and the public had done very little, consequently the necessity had arisen for calling the attention of the public to its duty in that respect, and he hoped that soon the income of the British Medical Benevolent Fund would be doubled and that the result of the present meeting would permanently benefit the Fund.

Sir RICHARD DOUGLAS POWELL contended that all medical men might contribute something, even if it were a small sum, and might interest their friends in the success of the Fund.

Sir JOHN TWEEDY commented on the economic value of the medical profession to the State, for health was far cheaper for the community than disease.

The meeting concluded with a vote of thanks to the chairman.

THE MOST RECENT GRANTS OF THE FUND.

At the January meeting of the committee 20 cases were considered and grants amounting to £180 were made to 19 of the applicants. Appended is an abstract of the cases relieved:—

Widow, aged 70 years, of M.R.C.S. No income; slight help from children. Relieved 16 times, £173. Voted £10.

Daughter, aged 33 years, of late M.D. Glasg. Used to support herself by nursing, but the last three or four years has had very bad health and is now quite incapacitated. No income; slight help from a friend and the Distressed Gentlefolks' Aid Association. Relieved four times, £41. Voted £10.

Daughter, aged 64 years, of late M.R.C.S. Has maintained herself as a governess from the age of 16 until a few years ago. Invested her savings in a company which has just gone into liquidation. Voted £12.

M.R.C.S., aged 65 years. Used to have a good practice, but has lost several patients through death and removal. Receipts last year not very much more than his rent and is not in good health. Voted £12.

L.R.C.S. Irel., aged 64 years. Was a ship's surgeon for many years, but was obliged to resign, having contracted a drug habit, and now finds it impossible to get work, although there is every reason to believe that for five years he has taken neither narcotic nor stimulant. Was given an interim grant of £2 at Christmas and now voted £5, with leave to apply again in six months, a medical friend undertaking to receive the money and satisfy himself as to the use made of it.

Widow, aged 85 years, of M.R.C.S., L.S.A. Only income £25 a year from the United Kingdom Beneficent Association, and has been bedridden for six years. A friend who formerly helped died recently. Voted £5.

L.R.C.P. Edin., aged 78 years. Used to have an excellent practice, but receipts have greatly fallen off owing to changes in the neighbourhood, and applicant has unavoidably exhausted his savings. Voted £12.

Daughter, aged 49 years, of late L.R.C.P. Edin. No means, and is not in a fit state for undertaking remunerative work of any sort. Voted £10.

Medical student who hopes to get qualified in 18 months' time, but whose father recently died leaving applicant and four sisters quite unprovided for. A grant has been made him at his school and help is promised by local friends, but meanwhile money is urgently needed for unavoidable expenses. Voted £20, to be distributed to the family at the discretion of an honorary local secretary.

Wife, aged 39 years, of M.D. Edin., who is confined in an asylum; income £13 a year. Has taken lodgers, but is at present unable to do so on account of a recent surgical operation. Two children, aged 13 and 12. Relieved four times, £23. Voted £10.

Widow, aged 59 years, of M.R.C.S. No income; slight help from children. Has permanently injured her right hand. Relieved five times, £53. Voted £12.

Daughter, aged 71 years, of late M.R.C.S., L.S.A. Income £20 a year. Earns a few shillings occasionally by needlework. Relieved nine times, £95. Voted £5.

Widow, aged 60 years, of L.R.C.P., L.R.C.S. No income; health failing; endeavours to earn a little by needlework but finds it difficult to obtain. Relieved ten times, £105. Voted £12.

Widow, aged 38 years, of M.R.C.S., L.S.A. Quite unprovided for at husband's death. No income, slight help from friends. Has maintained herself as a housekeeper until about a year ago, when she developed phthisis. No children. Relieved once, £5. Voted £5.

Widow, aged 51 years, of M.R.C.S., L.S.A. Quite unprovided for at husband's death, and with the assistance of this Fund and relations has brought up her four children, whom it is hoped will soon be able to support her. Relieved 13 times, £150. Voted £12.

Daughter, aged 68 years, of L.R.C.P., L.R.C.S. Edin. After father's death at the age of 92 applicant became a teacher, property intended for her support having had to be realised. Has now a teacher's pension of £15 a year and a little help from the Indigent Gentlewomen's Fund. Relieved twice, £28. Voted £5

Widow, aged 65 years, of L.F.P.S. Glasg. Nursed her husband for several years before his death and now endeavours to support herself by letting lodgings. No children. Relieved once, £5. Voted £5.

Daughter, aged 57 years, of late M.R.C.S., L.S.A. Maintained herself for several years as a governess but now dependent on small earnings from needlework and music pupils. Relieved once, £12. Voted £12.

Widow, aged 54 years, of L.R.C.P., L.R.C.S. Irel. No income. Children do not help. Relieved four times, £41. Voted £6.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, W.

CONFERENCE OF MEDICAL MEN AND FRIENDLY SOCIETIES.

A CONFERENCE of medical men and friendly societies, convened by the Council of the Charity Organisation Society, was held on Feb. 6th at Denison House, Vauxhall Bridge-road, London, with Sir Alfred Lyall in the chair. There were over one hundred medical men present, and a great number of the friendly societies had sent representatives. The proceedings were of an animated character, most of the speakers having to submit to much interruption which consisted chiefly in point-blank denials of various statements. Taking into consideration the eagerness of the gathering the chairman was justified in allowing a large measure of licence to the interrupters of both sides.

Dr. JAMES PEARSE commenced the business of the conference by reading a paper on Friendly Societies and the Medical Profession. He said that the medical profession had no quarrel with the friendly societies as such, for the good work they had done was patent to all. Nor did the profession object to the principle that friendly societies should provide for the medical attendance on their members in sickness; it only demanded that such provision should be equitably treated. It objected strongly to the details by which the principle was carried out, and maintained that they were neither fair nor reasonable. In explanation of this, the speaker said that, taking an average of the friendly societies, the fee paid by members for medical attendance was 5*s.* per annum. That meant that for the sum of 5*s.* for each member on the list the practitioner must attend the members who were ill and must also provide the necessary drugs and surgical dressings, and the contention was that the remuneration was wholly inadequate. A report upon the sickness incidence for the years 1903–07 in the Manchester Unity of Oddfellows, which contained 600,000 members, showed that the annual average period of sickness per member exposed to risk was 2·344 weeks. Thus a lodge with 100 members would experience 234 weeks of sickness during the year, the medical man would receive for attendance on such £25, or approximately 2*s.* per week. He also referred to the injustice of members who were in receipt of

good incomes going upon the club in times of sickness. He knew of a manufacturer who was paying £100 a week in wages, and who as a member of a society was attended by a medical man at 4s. a year. He died worth £10,000. In another case a member of a society who was receiving medical attention at a similar rate died worth £80,000. Under the existing system medicine was degraded to a sordid commercial bargain. The medical man felt that he was being sweated, and the patient, perhaps, felt that he was not being treated as a private patient would be. It was very doubtful whether medical attendance could ever be satisfactorily contracted for. The demands were so varied and the work required was so complex that he hardly saw how it could be reduced to the question of a single figure to cover every contingency. But it was very desirable that some more satisfactory system than the present should, if possible, be evolved. In the first place, he had shown that the fee paid bore no relation to the work done. Some more accurate adjustment was surely possible. It seemed to him that it would be a feasible plan to arrange a given fee to correspond to each week of sick pay; and that at the end of the year the medical man should receive such sums as corresponded to the weeks of sick pay experienced by the members on his list. Only such payment must take into consideration the attention given to members who were not ill enough to be laid aside. An alternative would be to adopt the system of a recognised payment for each item of work done. So far as he knew the National Deposit Friendly Society was the only one which had evolved a scheme on those lines, paying a given fee for each visit or consultation. He had no personal experience but had heard medical men speak with satisfaction of its methods, and he did not think he could say that of any other friendly society. The fees, however, did not err on the side of liberality. Another excellent feature of that society was that a portion of the medical fee was paid from the member's deposit; hence there was some check on the members who haunted the medical officer's house and had a strange appetite for physic, and there was an inducement to come off the sick list as soon as possible instead of remaining on as long as possible, as might sometimes happen. Secondly, it must be recognised that medical men only expected to attend on any contract system those in receipt of a limited wage and who could not afford to pay the usual fees. The details of a wage limit were difficult to define but the principle was essential. Thirdly, if women and children were to be included in medical benefit the payment must bear a truer proportion to the work required. Those were the essential points which he desired to submit to them that afternoon and he trusted that he had not been unreasonable in their presentment. It might be said that he had expounded difficulties but had given no adequate solution. That he admitted. But the problem was a difficult one and he did not think the solution lay within the power of one man. There were two sides to every question; he was anxious to safeguard the interests of the profession but it had to be recognised that the interests of the friendly societies had also to be safeguarded. Really the two should be identical. What was to be desired was, as he had said before, that the matter should be approached in the light of reasonable discussion and an honest endeavour made to arrive at a mutually satisfactory agreement. He believed that the majority of them were anxious to work in harmony with the friendly societies, but he was persuaded that if nothing was done an increasing number of medical men would decline to have part or lot in contract practice. Surely it was worth while to try for union. He knew that there was many a man who began his work with enthusiasm whose professional life was embittered by the evils of the contract system; that it blighted his hopes, stifled his ambition, and destroyed his love of work. Was it well that that should be? So from each point of view—that of the public, that of the friendly societies, that of the medical profession—was there not reason in seeking amendment?

Sir THOMAS SMITH said the chief grievance was that members in a good financial position accepted the services of a contract medical officer. Those members had perhaps been artisans and were of a careful disposition, and it would not be human nature for them to refuse the attendance of the medical officer to the society, because everyone liked to get the most for his money. He regretted that there was no board of conciliation to settle the dispute between the societies and the medical profession.

Sir THOMAS BARLOW, after calling attention to the large amount of work done without remuneration by medical men, said that where club practice was so organised as to leave the medical man no time for private work, and where wealthy people took advantage of it, it amounted to slavery. No living wage could be got out of it. It was degrading to find men in the position of shopkeepers and well-to-do tradesmen taking advantage of their club membership to call for medical attendance on the small fee. It could hardly be considered just to the medical man. He appealed to the friendly societies to pay their medical officers a living wage. The friendly societies would, of course, continue to get the services of medical men of a kind for a miserable pittance. But they could not get good medical services in the circumstances and he asked them not to lower the tone of one of the most sacred professions in the world by offering those small fees.

Mr. R. W. MOFFREY, of the Manchester Unity of Oddfellows, said that on behalf of the friendly societies he could promise that, with a view to the settlement of the dispute, the National Conference of Friendly Societies would receive a representative body of medical men so long as the latter were ready to be reasonable and did not insist upon the wage limit.

Mr. J. SMITH WHITAKER, speaking for the British Medical Association, said that no amicable adjustment could be arrived at unless friendly societies were prepared to accept a wage limit.

After further discussion a motion proposed by Dr. L. S. MCMANUS was carried unanimously expressing the hope that the conference would lead to a settlement of the issue in dispute through negotiations between representatives of the medical profession and the friendly societies.

MEDICINE AND THE LAW.

Is Dysentery an Accident?

AT the Belfast Recorder's Court recently an application was made by Margaret Jane Cleland under the Workmen's Compensation Act for compensation in respect of the death of Thomas W. Cleland, late chief engineer of the steamer *Stratharon*. The respondents were Messrs. Burrell and Son of Glasgow who were sued as owners of the ship. It appeared from the official log-book that on August 7th last, while the *Stratharon* was on a voyage from Calcutta to Bombay, the chief engineer went off duty sick, suffering from diarrhœa and loss of power in the hands and legs. He continued to suffer from these symptoms and was treated by the captain for them until August 13th when dysentery developed, and death ensued on August 16th. The cause of death was stated in the certificate of registration in the marine registry of deaths to be dysentery. It was contended on behalf of the applicant that death was the result of an accident within the meaning of the Workmen's Compensation Act, and in support of this argument the decision in the case of Williamson *v.* Ismay, Imrie, and Co. (commonly known as "the heat stroke case") was relied upon. After argument the judge dismissed the case, holding that death was not the result of an accident within the meaning of the Act, but he recommended the applicant to the kind consideration of the respondents.

Rupture Caused by Heavy Seas.

In the Liverpool County Court on Jan. 15th Judge Shand had before him an application for compensation under the Workmen's Compensation Act brought by a ship's cook on board the *Domino*. For the applicant it was contended that on Nov. 7th last, whilst the *Domino* was in the Gulf of Bothnia on her return journey to Manchester, the weather was so rough that certain rods were put on the stove to keep the pans in their places. One of these rods seems to have projected some inches beyond the front of the stove; the ship was pitching considerably, and while the applicant was standing in front of the range at his work in connexion with the cooking the ship gave a sudden pitch and he was thrown forward on to the projecting point of the rod which caught him in the stomach. The applicant subsequently discovered that he was ruptured and he now contended that he would never again be fit to perform his old duties of cook and ship's steward which included the lifting of

considerable weights. Applicant's wages on the *Domino* had been £6 per month and the half of his weekly wages had been agreed at 19*s.* 5½*d.* On behalf of the respondents, it was stated that after the *Domino* had arrived at Manchester the applicant complained of feeling some pain and the captain allowed him to go home for a few days' rest, but he did not return to resume his duties although his berth on the ship had always been open for him. Evidence was then given as to the fitness to go to sea of men suffering from rupture. By a medical adviser to the Shipping Federation it was stated that a summary of examinations showed that of 476 men who were ruptured 279 were passed as fit for sea and were actually shipped. From further medical evidence it appeared that in ordinary circumstances so long as ruptured men were supplied with proper trusses they were passed for sea. The main point at issue was as to whether the applicant was, or was not, fit to perform his duties as cook. His honour, having heard the evidence on both sides, awarded the applicant compensation at the rate of 19*s.* 5½*d.* per week as from the date of his arrival in the United Kingdom until Jan. 15th and for the future he reduced the compensation to 1*d.* per week in order to keep the matter open.

A Crèche Alleged to be a Nuisance.

In the King's Bench Division recently Mr. Justice Channell refused to grant an injunction against those responsible for the keeping of a house in Harwood-road, Fulham, as the "Fulham Day Nursery." The nursery is one provided by private benevolence for the benefit of mothers who, being at work during the day, are glad to have a place in which their infant children will be taken care of for them. At the institution in question between 20 and 30 babies were said to be taken care of at a time, and the evidence showed that the neighbours, one of whom brought the action, were disturbed and annoyed by the cries of the children, particularly when in fine weather a number of them were placed out of doors in cots. There was no medical evidence of any loss of health, or likelihood of such loss, arising from the noise, which in the circumstances was to be heard by day and not at night, and the judge called attention to the absence of female witnesses on behalf of the plaintiff. He was of the opinion that the noise complained of was one of those "little nuisances" which people who live in towns have to put up with and was not sufficiently serious to entitle the plaintiff to damages or to an injunction, and he accordingly gave judgment for the defendant (the secretary of the nursery) with costs.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8449 births and 5893 deaths were registered during the week ending Feb. 6th. The annual rate of mortality in these towns, which had been equal to 15·7 and 18·0 per 1000 in the two preceding weeks, further rose to 18·7 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns averaged 17·3 per 1000, and in London the mean rate during the same period was equal to 17·7. The lowest recorded annual death-rates in these towns during the week were 6·9 in Devonport, 8·8 in Walthamstow, 9·2 in Hastings, and 10·4 in Hornsey; the rates in the other towns ranged upwards, however, to 23·3 in Salford, 23·5 in Hanley, 24·0 in Bootle, 24·6 in Manchester, and 26·3 in Middlesbrough. In London the recorded death-rate during the week was equal to 20·3 per 1000. The 5893 deaths from all causes in the 76 towns last week showed a further increase of 228 upon the numbers returned in the two previous weeks, and included 494 which were referred to the principal epidemic diseases, against 447 and 483 in the two preceding weeks; of these 494 deaths, 190 resulted from measles, 114 from whooping-cough, 80 from diphtheria, 43 from scarlet fever, 40 from diarrhœa, and 27 from "fever" (principally enteric), but not one from small-pox. The deaths referred to these epidemic diseases in the week under notice were equal to an annual rate of 1·6 per 1000, against 1·4 and 1·5 in the two preceding weeks; in London the recorded rate from these diseases was equal to 1·5 per 1000. No death from any of these epidemic diseases was registered during last week in Plymouth, South Shields, Halifax, Northampton, Devonport, or in ten other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·5 in Birmingham, 4·4 in Smethwick, 6·4 in Middlesbrough, and 7·2 in Warrington. The fatal cases of measles in the 76 towns, which had been 210 and 217 in the two preceding weeks, declined to 190 in the week under notice, but caused annual death-rates equal to 2·6 in West Hartlepool, 3·7 in Smethwick, 5·4 in Middlesbrough, and 5·8 in Warrington. The fatal cases of whooping-cough, which had steadily increased from 45 to 94 in the first four weeks of the current quarter, further rose last week to 114, and caused annual rates equal to 1·1 in St. Helens, 1·7 in Wigan, and 2·1 in Swansea. The 80 deaths from diphtheria also exceeded the number returned in any of the four preceding weeks, and included 33 in London and its eight suburban districts, seven in Birmingham, three in Derby, in Liverpool, and in Sheffield, and nine in Manchester and Salford. The deaths from scarlet fever, which had been 50, 32, and 30 in the three previous weeks, rose again last week to 43, of which ten occurred in Liverpool and three both in Birmingham and in Leicester. The 40 fatal cases of diarrhœa corresponded with the number in the previous week, as did the 27 deaths referred to "fever," which included ten in Manchester and Salford, the five in the latter borough being equal to an annual rate of 1·1 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined in the five preceding weeks from 3557 to 3201, had further decreased to 3117 at the end of the week under notice; the new cases of this disease admitted to these hospitals during the week under notice were 312, against 379 and 339 in the two preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 317 and 377 in the two preceding weeks, further rose to 556 in the week under notice, and exceeded by 136 the corrected average number in the corresponding week of the five years 1904–08. The causes of 43, or 0·7 per cent., of the deaths registered in the 76 towns during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of deaths registered during the week under notice were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Leicester, and in 50 other smaller towns; the 43 uncertified causes of death in the 76 towns last week included ten in Liverpool, five in Birmingham, and five in Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·8 and 17·2, per 1000 in the two preceding weeks, rose again to 18·5 in the week ending Feb. 6th. During the first five weeks of the current quarter the annual death-rate in these eight towns averaged 18·4 per 1000, and exceeded by 1·1 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 14·6 and 14·7 per 1000 in Leith and Perth to 20·1 in Aberdeen and 25·9 in Dundee. The 662 deaths from all causes registered in the eight towns last week exceeded the number in the previous week by 46, and included 77 which were referred to the principal epidemic diseases, against 57 and 71 in the two preceding weeks; of these 77 deaths, 42 resulted from whooping-cough, 13 from diarrhœa, 12 from diphtheria, four from scarlet fever, four from "fever," and two from measles, but not one from small-pox. These 77 deaths were equal to an annual rate of 2·2 per 1000, exceeding by 0·6 the mean rate during the week from the same diseases in the 76 English towns. The fatal cases of whooping-cough in the eight Scotch towns, which had been 39, 35, and 34 in the three preceding weeks, rose to 42 in the week under notice; and included 33 in Glasgow, three in Edinburgh and in Aberdeen, and two in Paisley. The 13 deaths attributed to diarrhœa showed a decline of five from the number in the previous week; nine were recorded in Glasgow and two in Aberdeen. The deaths from diphtheria, which had been 12 and 10 in the two preceding weeks, rose again to 12 last week, of which six occurred in Glasgow, and two both in Dundee and in Aberdeen. Of the four deaths referred

to "fever," two were certified as enteric and two as cerebro-spinal meningitis; three of the four were registered in Glasgow and one in Aberdeen. Of the four fatal cases of scarlet fever two occurred in Glasgow and one each in Dundee and Paisley; and both the deaths from measles were returned in Aberdeen. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 151, 118, and 111 in the three preceding weeks, rose to 131 in the week under notice, but were 40 below the number returned in these towns in the corresponding week of last year. The causes of 14, or 2·1 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had steadily increased in the four preceding weeks from 23·6 to 25·4 per 1000, declined to 24·3 in the week ending Feb. 6th. During the first five weeks of the current quarter the death-rate in the city averaged 24·5 per 1000, whereas the mean rate during the same period did not exceed 17·7 in London and 18·0 in Edinburgh. The 186 deaths of Dublin residents during the week under notice showed a decline of eight from the number in the previous week, and included 11 which were referred to the principal epidemic diseases, against 13 in each of the two previous weeks. These 11 deaths were equal to an annual rate of 1·4 per 1000; the rate from these epidemic diseases in the same week was equal to 1·5 in London, but did not exceed 0·7 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week seven resulted from measles, three from diphtheria, and one from whooping-cough, but not one from scarlet fever, "fever," diarrhœa, or small-pox. The fatal cases both of measles and of diphtheria exceeded the numbers returned in the previous week. The 186 deaths from all causes registered during the week included 32 of infants under one year of age and 64 of persons aged upwards of 60 years; the deaths of infants showed a further decline from the numbers in the two previous week. Three inquest cases and two deaths from violence were registered during the week; and 75, or 40·3 per cent., of the deaths occurred in public institutions. The causes of three, or 1·6 per cent., of the deaths registered in Dublin last week were not certified; in London the causes of all but two of the 1878 registered deaths were duly certified, while in Edinburgh 4·2 per cent. of the causes of death were uncertified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Surgeon John Neil Robertson has been promoted to the rank of Staff-Surgeon in His Majesty's Fleet (dated May 15th, 1907).

The following appointments are notified:—Fleet-Surgeons: F. W. Parker to Malta Hospital; A. H. L. Cox to the *Commonwealth*; R. C. Munday to the *Royal Arthur* and to the *Hyacynth* on recommissioning; F. H. A. Clayton to the *Royal Arthur* for voyage home; J. Shand to the *Africa* on recommissioning; and R. Miller to the *Magnificent* on recommissioning. Staff-Surgeons: C. T. Baxter to Haslar Hospital; A. J. Laurie to the *Royal Arthur* and to the *Hyacinth* on recommissioning; T. H. Vickers to the *Royal Arthur* for voyage home; W. R. Trythall to the *Dido* on recommissioning; G. Gibson to the *Sapphire* on recommissioning; H. L. Geoghegan to the *Royal Arthur* for voyage home. Surgeons: G. S. Davidge to the *Sapphire* on recommissioning; E. M. W. Hearn to the *Royal Arthur* and to the *Hyacinth* on recommissioning; E. S. Wilkinson to the *Royal Arthur* for the *Lapwing* on recommissioning; R. H. Atkins to the *Royal Arthur*, additional, for voyage home; J. M. Hayes to the *Warrior*; F. H. Stephens to the *Defence*; A. D. Spalding to the *Tamar*, additional, for dockyard duties; F. L. J. M. de Verteuil to the *Pembroke*, additional, for the *Endymion*; P. B. Egan to the *Africa* and G. A. Bradshaw to the *Magnificent*, both on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain Bernard Bruce Burke and Captain Richard Chapman Wilson have qualified as specialists in otology and laryngology. Lieutenant-Colonel N. C. Ferguson, C.M.G., has joined the London District Medical Staff on his return from Middleburg, Cape Colony.

TERRITORIAL FORCE.

Yeomanry.

Lanarkshire: Surgeon-Lieutenant-Colonel Russell Eliott Wood, from the Lanarkshire Imperial Yeomanry, to be Surgeon-Lieutenant-Colonel, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Royal Field Artillery.

2nd West Riding Brigade: Surgeon-Captain Edward George Peck, from the 2nd West Riding of Yorkshire Royal Garrison Artillery (Volunteers), to be Surgeon-Major (dated April 1st, 1908).

Royal Garrison Artillery.

East Riding: Surgeon-Captain Arthur William Scott, from the 2nd East Riding of Yorkshire Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Royal Army Medical Corps.

For attachment to Units other than Medical Units.—John Colley Smith Burkitt to be Lieutenant (dated May 15th, 1908). Charles David Mathias to be Lieutenant (dated May 25th, 1908). Lieutenant Herbert Meggitt to be Captain (dated May 26th, 1908). Charles Edward Mellersh Jones to be Lieutenant (dated Jan. 15th, 1909).

Yorkshire Mounted Brigade Field Ambulance: John Hepple to be Lieutenant (dated Jan. 1st, 1909).

The announcement of the appointment of Lieutenant-Colonel Russell Eliott Wood which appeared in the *London Gazette* of Oct. 20th, 1908, is cancelled.

Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel James Keith Anderson from the 2nd (Angus) Volunteer Battalion, The Black Watch (Royal Highlanders), to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Thomas Philip from the 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders), to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

DEATHS IN THE SERVICES.

Surgeon-General Thomas Tarrant, C.B., A.M.S., Honorary Physician to the King, on Feb. 1st, aged 79 years. He entered the service in 1854 as assistant-surgeon, became surgeon in 1866, surgeon-major in 1873, deputy-surgeon-general in 1883, surgeon-major-general in 1889, and retired on half-pay in 1890. He served in the Eastern campaign of 1854–55 (medal with clasp for Sebastopol and Turkish medal) and in the Indian campaign of 1857–58, including the battle of Cawnpore, action of Kalee Nuddee, and affair of Kunkir (medal). Served in South Africa as senior medical officer in Wood's Force from June to September, 1878; afterwards in the Zulu war of 1879, in Pearson's Column till March, 1879; and then with the Ekowe relieving force, being present at the engagement at Gingindhlovu (mentioned in despatches). He was afterwards principal medical officer of the 1st Division from its formation until its dissolution (medal with clasp).

EAR PROTECTION DURING GUNNERY.

The Admiralty has issued a memorandum stating that as a result of trials of various forms of ear protectors it has been decided that the form of ear protection to be used during gun-fire may be left to the individual choice of the officers and men concerned.

The Right Hon. John Burns, President of the Local Government Board, has recently made, in company with Lieutenant-Colonel Woodhouse, R.A.M.C., an inspection of Netley Hospital.

Correspondence.

"Audi alteram partem."

THE SECTION OF ANÆSTHETICS OF THE ROYAL SOCIETY OF MEDICINE AND THE PROPOSED GENERAL ANÆSTHETICS BILL.

To the Editor of THE LANCET.

SIR,—It is now hardly necessary for me to reply to the criticisms of Dr. Dudley Buxton and of Dr. J. F. W. Silk on the proposed General Anæsthetics Bill, seeing that the section of the Royal Society of Medicine of which they are such well-known members has since the appearance of their letters emphatically expressed itself in favour of restricting the administration of general anæsthetics to legally qualified medical practitioners. With some of the views expressed by Dr. Buxton in his temperate and thoughtful letter I am in complete sympathy. I quite agree, for example, that it would be desirable in the public interests, although I fear it would be impracticable, to include certain local anæsthetics or methods of applying them within the scope of the Bill. With other views I am, unfortunately, not completely in accord. The present occasion, however, is not one upon which it is possible satisfactorily to discuss such an important and far-reaching subject, but I hope shortly to publish a series of articles dealing with the whole question of deaths under anæsthetics and the means which, in my opinion, are urgently needed for their prevention. It seems to me that there are no differences between Dr. Buxton and myself that do not admit of adjustment, and I am glad to think that this is the case; we both wish to reach the same goal though by somewhat different routes. As matters fortunately now stand, the Section of Anæsthetics is to be congratulated on being the first of the numerous sections of the Royal Society of Medicine to transmit to the Council of that society a resolution in favour of legislation in regard to its own branch of practice. The section has, in fact, taken a step which is in complete harmony with the views and policy of the General Medical Council as to unqualified practice, and it is to be hoped that it will still exert its valuable influence in bringing about the reforms which are required.

I am, Sir, yours faithfully,

Queen Anne-street, W., Feb. 8th, 1909. FREDERIC HEWITT.

A DEVELOPMENT OF MEDICAL PROTECTION.

To the Editor of THE LANCET.

SIR,—A circular was sent out in June last by the Council of the London and Counties Medical Protection Society, Limited, on the subject of extending the protection granted to members of the society (in respect of claims brought against them for negligence, &c., in connexion with their practice), so as to cover not only the costs of defending the proceedings, as previously, but also the amount of the judgment and plaintiff's costs where such defence was unsuccessful.

The matter was considered by that Council on receipt of the replies to the circular, and ultimately it was decided not to proceed with the scheme on the basis then suggested, but to leave each member who desired this additional cover to make individual arrangements with one of the public insurance companies.

Arrangements have now been made with the National General Insurance Company, Limited, which is issuing policies on the following terms for the benefit of members of the London and Counties Medical Protection Society only:—

1. The London and Counties Medical Protection Society, Limited, will, as heretofore, undertake the defence of members in actions brought against them where, in the opinion of the Council, such actions are proper cases to be defended.

2. In the event of the defence being unsuccessful and of judgment being given against the member sued, the National General Insurance Company, Limited, will pay the amount of damages awarded, together with the plaintiff's taxed costs, not exceeding in the whole £2000 in any one year, for any one member. The effect of this will be that in all cases where the Council undertakes the defence the member will be fully protected (subject to the limit mentioned) whatever the ultimate result of the case may be.

3. The premium to be charged by the National General Insurance Company, Limited, for the indemnity has been arranged at 10s. per member per annum, with the addition of 5s. in respect of each qualified assistant, and 2s. 6d. for each dispenser employed.

Large numbers of members of the London and Counties Medical Protection Society have already taken out these policies and this new form of insurance seems likely to be very popular. The objection which might be made to indemnifying medical or dental practitioners absolutely against actions for professional negligence or want of reasonable skill is obviated by the fact that the council of the London and Counties Medical Protection Society does not intentionally defend its members if their conduct has been such as to justify the claims made against them. Full particulars of the above policies can be obtained from the National General Insurance Company, King's House, King's-street, London, E.C., or from

Yours faithfully,

HUGH WOODS, General Secretary,
London and Counties Medical Protection Society.
31, Craven-street, Strand, London, W.C.

STEATOPYGIA.

To the Editor of THE LANCET.

SIR,—Permit me to make a few remarks in regard to the article, "An Interesting Example of Steatopygia," which appeared in THE LANCET of Jan. 30th. The illustration accompanying the article is not, I should think, that of a female Bushman but of a young Hottentot woman. Examples of Bushmen are now rarely, if ever, met with in the Cape Colony except in very remote parts bordering on the Kalahari Desert. Many years ago, whilst serving with a field force operating against a rebellion of Griquas and Hottentots, some of our most difficult work was near the Kalahari, and there I came across a few specimens of real Bushmen. The most interesting feature of these little people is their perfect symmetry and they possess beautifully shaped hands and feet. The only abnormality they show—and this is an acquired not an inherited abnormality—is the pendulous stomach, which is more noticeable in the young than in the adult. The enormous stomach, often hanging well over the pubes, is dilated by frequent feasts and fasts and excessive water drinking. It is really extraordinary the amount of food which such a small person can put by. I have seen a Bushman somewhere about 4 feet in height consume 12 pounds of cooked meat with bread and large libations of coffee at one sitting. The difference between a hungry Bushman and one who has recently dined is, indeed, remarkable—something like blowing up a collapsed indiarubber ball. So long as the food lasts they sit up and eat, and sleep is quite a secondary consideration. It can be imagined that, owing to a natural scarcity of food, the Bushman is miserably spare in appearance and carries no spare flesh. His ordinary food consists of locusts, grubs, nuts, wild fruit, &c. He does not excel as a hunter, as his only offensive weapon is a small bow and arrows. The arrows are provided with a detachable bone head, which is generally smeared over with putrid meat, or, I believe, with the juice of the euphorbia. I had under my care two troopers who were wounded with these arrows and the effect of the poisoned arrow-head appeared to be quite local, the wound being followed by severe cellulitis and abscesses, but I found no evidence of any direct constitutional disturbance from poison. The Bushmen are absolute nomads, possessing no flocks or stock, not living in community, but each family living separately, wandering about with no fixed dwelling, and they make no attempt at agriculture. Their language is probably the most difficult in the world to acquire and is made up largely of very soft sibilant "clicks." There are, as far as I know, only two Europeans who speak the language.

The Hottentots are fairly numerous and are built on a larger scale than the Bushmen, whom they do not resemble. They are used by Cape farmers as herds and in this capacity they show an extraordinary quality, for a Hottentot herd will take several spans of oxen, flocks of sheep, or herds of goats into the veld for grazing, and upon returning to the kraal in the evening will stand by the gate watching the animals

enter. Now the herd, whose counting ability is very limited, will at once detect whether one or more animals are missing, and will give an absolutely correct description of the colour, markings, and physical peculiarities of the missing beasts. It is the most astonishing performance I have seen.

Steatopygia is general amongst the Hottentots and not among the true Bushmen. Almost all the women of the former race exhibit in a greater or less state of development the fatty enlargement of the buttocks and hips. This form of steatopygia is often enormous, as depicted in the illustration to your article, but the feature which is perhaps more noticeable than the size is the quaking and shivering motion of the fatty masses caused by the movement of the woman when walking. It is for all the world as if the buttocks were composed of quivering jelly and a good specimen case once seen is never forgotten. These enormous buttocks, however, seem to have their use, for they make admirable supports with the aid of a skin shawl whereon to carry the younger children when the mother is trekking. I have really seen children being thus carried literally looking over the edge.

The condition of skin extending over the pubes and alluded to in your article is caused by a continual pulling and stretching of, generally, the vaginal labia and clitoris from very early childhood, causing a great deal of extra growth which falls as a flap and well covers the vagina. This growth is calls the *lappell*, but what is its actual use I could not find out. All the Hottentot women have it. One woman tried to explain the use of the *lappell* in this way: "You know that the Hottentot women always squat on their haunches around the fire, and the wood fire is dusty, and the ground is dusty; well, the good God has given us the lappell to keep the dust out."

The Hottentots have always lived in communities with a recognised head-man or captain. The men are excellent fighters, wonderfully fine scouts, and are absolute masters in their instinctive art of spoor finding or tracking, but, unfortunately, owing to their excessively drunken and pilfering habits they figure largely in the law courts.

I am, Sir, yours faithfully,

HERBERT D. CROOK, M.R.C.S. Eng., L.R.C.P. Edin.

Southstoke, Bath, Jan. 30th, 1909.

PURULENT CONJUNCTIVITIS OF INFANCY.

To the Editor of THE LANCET.

SIR,—Mr. Percy Dunn's letter in THE LANCET of Feb. 6th, p. 426, on the terminology of what he calls the "purulent conjunctivitis of infancy" is interesting, although I for one cannot agree with him in thinking that to change the time-honoured name "ophthalmia neonatorum" to the one favoured by himself would help us much. To my mind, indeed, there does not appear to be a great deal to pick between them, since one is as uncouth as the other and both are more or less inexact. Newly born children suffer from inflammations of the eye other than ophthalmia and every conjunctivitis in newly born children is not purulent. But, after all, it is the disease, which is still by far the commonest cause of blindness in children, and not the name that matters. If by a simple change from one name to the other good can be done, then let us change it forthwith. The committee on ophthalmia neonatorum of the British Medical Association, I am confident, will be only too glad to hear of practical proposals for the extirpation of the malady itself (call it what you will), the very existence of which constitutes a standing reproach to those who have to care for parturient women. The committee, I may add, is a strong one, including, as it does, representatives of the British Medical Association, the Obstetrical and Gynæcological Section of the Royal Society of Medicine, the Ophthalmological Society, the Section for the Study of Disease in Children of the Royal Society of Medicine, and, last but not least, the Society of Medical Officers of Health. Now is the time for all who are interested in this unhappy disease to be up and doing. Deeds are wanted more than words, whether they be applied rightly or wrongly.

I am, Sir, yours faithfully,

SYDNEY STEPHENSON,
Chairman of the Committee on Ophthalmia Neonatorum of the British Medical Association.

Welbeck-street, W., Feb. 8th, 1909.

THE TREATMENT OF SCHOOL CHILDREN BY THEIR TEACHER.

To the Editor of THE LANCET.

SIR,—A few days ago a woman came to consult me about her child, a little girl, who had a sore on her chin. She told me the following story. The previous morning she noticed a red patch on the child's chin, and thinking it was possibly ringworm kept the child from school and wrote to the teacher telling her the reason. She got an immediate reply telling her to send the child. On her arrival at the school—one under the London County Council—she was examined by the teacher who took some fluid out of a bottle on a slate pencil and applied it to the patch. Next morning the chin appeared worse, and also remarking a swelling in the neck the mother brought the child to me. This story so surprised me that I wrote to the teacher asking her if the school medical officer had seen the child, or if she had treated her, and if so what had she applied. After receiving my letter the teacher called on me and told me no medical officer had seen the child, but she knew the child had ringworm and had treated it with pure sulphurous acid. It has always been her custom to do so in these cases and the only ones she does not treat are ringworm of the scalp. She is positive she can diagnose ringworm, always treats it as above, has never failed to cure, and never done any harm.

These facts raise two interesting points: 1. Are school teachers, when informed by parents that a child is possibly suffering from ringworm, correct in ordering the child to be sent to school without having it first examined by a medical man? 2. Is it customary or allowable for teachers under the London County Council to treat cases of ringworm or other skin diseases with applications such as sulphurous acid without medical instruction or control?

I am, Sir, yours faithfully,

K. R. COLLIS HALLOWES.

Buckingham Palace-road, S.W., Feb. 5th, 1909.

THE TREATMENT OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—I notice in your issue of Feb. 6th, p. 426, a letter from Mr. T. P. Beddoes drawing attention to a slight inaccuracy of expression in Dr. Stopford Taylor's "Note on the Treatment of Syphilis." As the formula for grey oil is a somewhat complicated one Dr. Taylor asked me some time ago to calculate accurately for him the amount of mercury administered in each dose, and I believe I am responsible for the error. Dr. Taylor says in his note, "Barthelemy's syringe is graduated in centigrammes, a complete syringeful holding in all 14 centigrammes, this amount of grey oil containing two and a half grains of metallic mercury by weight." Now, as Mr. Beddoes points out, this would make the dose of mercury in each syringeful 40 per cent. of 14 centigrammes, that is, 5·6 centigrammes, or a little over three-quarters of a grain.

Barthelemy's syringe does not, however, contain one centigramme of grey oil in each division, but is graduated in such a manner that when used with a 40 per cent. grey oil one centigramme of metallic mercury is contained in each of its divisions, and as Dr. Taylor states 14 centigrammes of metallic mercury or approximately two and a half grains in each syringeful. The syringe, which has a capacity of about five minims, is thus graduated not in centigrammes of grey oil but in centigrammes of mercury and when full contains 35 centigrammes of grey oil, 14 of which is metallic mercury. Grey oil is made up to contain 40 per cent. of metallic mercury by weight, using as excipient a mixture of liquid paraffin and vaseline. Now, the compounding of a mixture by weight, which is to be afterwards measured for administration by volume, is unscientific and though quite admissible where water is the excipient may lead to serious error where an excipient is used which is not of a definite and constant density.

Liquid paraffin according to the American Pharmacopœia varies in density in different specimens between 0·87 and 0·94—that is, a range of variation of approximately 7 per cent. Let us suppose that the makers of the syringe regulate the contents of each division so that it shall contain one centigramme of metallic mercury when used with grey oil made up with a paraffin with a density of 0·87. It may

happen that when the syringe comes to be used the grey oil employed may be made with a paraffin of density 0·94, and 35 centigrammes of this oil will occupy a smaller volume than the same weight of the oil for which the syringe was originally graduated. Hence, if the syringe be filled with this heavier oil a dose of mercury about 7 per cent. larger than was intended will be administered. This is not perhaps a large or serious inaccuracy but it could be avoided by mixing the mercury during the process of the manufacture of the oil, not with a measured weight of paraffin, but with a measured volume. The same volume of various specimens of grey oil made up in this way would then contain always the same amount of mercury, no matter what the density of the paraffin employed might be.

With a grey oil made up in this way it would not be necessary to have the specially graduated syringe which is required for an oil made up by weight, for it would be a simple matter to calculate the volume of oil which would contain the exact dose of mercury required and any syringe graduated in cubic centimetres or in minims could be employed. I am, Sir, yours faithfully,

Liverpool, Feb. 8th, 1909. WALTER C. ORAM, M.D. Dub.

REPAIR OF PERFORATIONS DURING THE SUBMUCOUS RESECTION OPERATION.

To the Editor of THE LANCET.

SIR,—It is interesting to note how the same idea will strike two persons in different parts of the world. The suggestion published in THE LANCET of Jan. 16th, p. 166, by Dr. F. D. Gulliver of New York occurred to and was put into practice by me with excellent result last November.

I am, Sir, yours faithfully,

MACLEOD YEARSLEY, F.R.C.S. Eng.

Harley-street, W., Feb. 3rd, 1909.

THE TREATMENT OF RHEUMATOID ARTHRITIS BY INTESTINAL LAVAGE.

To the Editor of THE LANCET.

SIR,—I have read with much interest Dr. F. Booth's article on this subject in THE LANCET of Dec. 19th, 1908, p. 1814. I have for the last eight years used this method in cases of rheumatoid arthritis with considerable success. Of course, it is only of value in a certain limited group in which the so-called joint centres in the cord are poisoned by toxins absorbed from the intestinal tract. The important point seems to be the selection of the proper cases for this form of treatment and my guide has been the appearance of a considerable excess of aromatic sulphates in the urine. Observations of a considerable number of patients suffering from rheumatoid arthritis strongly support the view that the joint symptoms may depend upon one or more of a number of reflex sources of irritation. These have to be dealt with, while at the same time the nerve-supply to the joint has to be strengthened and any underlying gouty or rheumatic conditions dealt with. I have found various electrical methods, counter irritation to the spine and joints, "Salisbury meat dietary," and Metchnikoff's "sour milk" treatment powerful adjuncts to mineral waters and baths but the success depends almost entirely upon recognition of the exact form of the disease with which we have to deal.

I am, Sir, yours faithfully,

Buxton, Feb. 4th, 1909. W. ARMSTRONG.

THE PRESENT EPIDEMIC OF COMMON COLDS.

To the Editor of THE LANCET.

SIR,—In the paper upon "The Common Cold" which appeared in THE LANCET of Nov. 28th and Dec. 5th of last year I stated that I thought it quite likely that additional organisms might have to be added to the list therein contained as being productive of the common cold. A minute bacteriological examination of 50 cases of the epidemic raging during the past two months has shown that at least 90 per cent. of these have been due to the pneumococcus, either alone or complicated either by the M. catarrhalis or M. paratetragenus, or by both of these. In three out of the 50 cases the B. influenzæ was present, once alone, twice together with the pneumococcus. This pneumococcal cold is clearly differentiated from the other varieties. It would appear to begin with slight cough, located in the upper part of the trachea. This extends within two to three days both downwards into the bronchi and upwards into the larynx; later the bronchioles and naso-pharyngeal space are also involved. Malaise is pronounced, the temperature may rise to 102°–103° F., there may be slight frontal headache, the cough becomes very bad and may be pronouncedly paroxysmal, and the secretion of mucus, which is clear, viscid, and jelly-like at the beginning and later, perhaps, of a bright yellow colour, is very profuse. Hearing, taste, and smell may be very markedly impaired, the former from extension to the Eustachian tube, the latter from that to the turbinal bones. The inferior meatus of the nose may completely escape involvement, with the curious result that, despite copious nasal secretion and pronounced engorgement of the mucosa of the nasal septum and that of the middle and superior turbinal bones, nasal respiration may be comparatively free. The subacute stage may be prolonged into several weeks, during which the nasal and bronchial secretion may continue very profuse and blood-stained and hearing, taste, and smell remain much impaired. The mixed infection by means of the M. catarrhalis and M. paratetragenus may complicate the clinical picture. Treatment upon general lines is rather unsatisfactory and the response to vaccine therapy not so prompt as in the other varieties of the "common cold." Due attention must, of course, be paid to the various organisms in the cases of mixed infection. The dose of pneumococcus should not exceed 50,000,000 for a first injection, but may be combined with 50–75 millions of M. catarrhalis or M. paratetragenus. Ten days later a dose of double this amount may be safely given. In this way the duration of even a severe attack may be confined within 14 to 17 days or less.—I am, Sir, yours faithfully,

London, W., Feb. 2nd, 1909. R. W. ALLEN, M.D. Lond.

THE TREATMENT OF ULCERATIVE COLITIS.

To the Editor of THE LANCET.

SIR,—When reading the interesting paper by Sir W. Allchin on Ulcerative Colitis reported in THE LANCET of Feb. 6th, p. 393, I noticed that in enumerating the methods of treatment of this disorder no mention is made of that by creosote dissolved in ol. morrhuæ. In this asylum we have had on many occasions considerable experience of severe cases of dysentery, and have tried at various times practically all the methods of treatment mentioned by Sir W. Allchin. We have, however, for some years past been so convinced of the superiority of the treatment by creosote and ol. morrhuæ that it is now exclusively made use of here. And I have no hesitation in saying that it relieves the symptoms more quickly and shortens the course of the disease more effectually than any other. I have not statistics by me just now, so cannot dogmatise about the relative mortality, but in my own opinion we have also had less mortality since adopting this method. The dose used here is as follows: Creosot. ♏iii., ol. morrh. ℥i. is given three times daily on the first day of the disease, castor oil having been previously administered. This is increased by ℥i. daily until on the fourth day the patient is taking creosot. ♏xii., ol. morrh. ℥ss. This is continued until the termination of the disorder. Trusting that this may prove of interest,—I am, Sir, yours faithfully,

EDWIN L. DUNN, M.B. Dub., &c.

Berkshire Asylum, Wallingford, Feb. 9th, 1909.

AN UNFAIR IMPOSITION.

To the Editor of THE LANCET.

SIR,—Some years ago that astute statesman, the late Lord Selborne, in an interesting address to the students of King's College, while bearing grateful testimony to the great dignity of the medical profession, regretted that it possessed fewer attractions, in the shape of adequate rewards, as compared with the sister learned professions, to tempt a greater proportion of the higher intellects among the youth of the

nation to its ranks. I do not agree with the estimate of the quality of our recruits, but since Lord Selborne's speech, now nearly a quarter of a century ago, has so-called progress ameliorated the status or rewards of the ordinary medical practitioner? On the contrary; more seems to be expected of him without any remuneration whatever. Putting aside the unpaid work of medical men to the State in general, what profession confers such benefits on the poor, on those in reduced and distressed circumstances, receiving not even in many cases common gratitude, for the doctor's claims are always the last to be thought of?

If such is true of general medical practitioners as a rule it applies with exaggerated emphasis to those practising in the poorer suburbs of large towns. Here the few well-to-do patients are largely absorbed by the specialists in town, while a considerable proportion of the poorer ones take advantage of the out-patient departments of the nearest hospitals. In these circumstances it is regrettable to learn that the local authorities of East Ham have decided to raise the assessments of the houses of nearly every medical man in the district from 5 to 50 per cent. under the plea that these houses are used for business purposes

I am, Sir, yours faithfully,

Manor Park, Feb. 8th, 1909. PRACTITIONER.

*** We trust that the medical profession will oppose a united front to an unjust imposition and take the highest legal opinion as to the matter. It seems to us that as a temporary measure they would be right to withhold payment.—ED. L.

SANITATION IN INDIA.

THE PREVALENCE OF ENTERIC FEVER AMONGST BRITISH TROOPS IN INDIA.

(FROM A SPECIAL CORRESPONDENT.)

VII.[1]—*Infection caused by Dust.*

BEFORE considering the question of the relationship of dust to the prevalence of enteric fever it is first necessary to refer briefly to the meteorological phenomena we meet with in India whereby dust becomes a very distinct factor in the spread of the disease. Speaking generally, the country is subject to a four months' annual deluge from June to September, and this monsoon period is followed by an eight months' drought, with perhaps a few scanty showers between December and February. During the monsoon the cantonment hill stations are washed absolutely clean, and to nature's efforts may thus be attributed a very great share of their general healthiness, as the accumulations of rubbish and filth of all descriptions are washed away from the hilltops to the plains. Similarly the cantonments and native cities in the plains get a certain amount of cleaning up, but in their case the filth and excreta settle down in the vicinity in watercourses and hollows below the general level of the ground. Again, the areas close to cantonments allotted for the purpose of trenching human excreta on the Allahabad system get the surface soil, which often too scantily covers the excreta, washed away by the heavy rains, and acres of fæcal matter may thus become exposed to dry in the Indian sun and get blown into barracks by winds as dust. This dust may be inhaled or ingested in large quantities directly or indirectly in food or drink, and augmented by dust of more recent contamination derived from infected soil in the vicinity of latrines and urinals in barracks it becomes a potent factor in the spread of the disease. From almost universal opinion of military medical officers in the country one is led to believe that dust is one of the most active channels by which enteric fever in spread in India. The months in which high winds prevail, causing clouds of dust, are often those in which the fever is most prevalent; for instance, the autumnal epidemic at Ambala in 1904 was preceded by marked conditions of this nature; again, at Secunderabad in the same year the greatest number of monthly admissions occurred in the wake of heavy dust storms and on the occurrence of rains the admissions at once began to diminish.

At Mian Mir (Lahore cantonments) it may be noted that records since 1892 show that 50 per cent. of all cases of enteric fever occur in the months of April to June annually, and that these are the months of greatest prevalence of dust and storms. The theory of enteric propagation by high dust-laden winds being a potent factor is also put forward by the Rawal Pindi authorities, at which station the majority of cases occurred during those months of the year in which climate conditions were such as to allow of marked dust storms. Outbreaks at Quetta have been attributed by Davies to infected fæcal dust derived from the trenching grounds and borne by wind to the barracks. It was also noted that in many of the cases that occurred at Quetta the disease set in with pneumonia, giving the impression that primary enteric infection began in the lungs, being carried in by dust, which is very marked there annually during the late summer and autumn months. Wasdin[2] was one of the first writers to suggest that the majority of cases of enteric fever were probably pneumonic in origin, the primary place of infection where the bacillus invades the general circulation being somewhere along the respiratory tract. In support of this assertion he claims to have been able to locate readily an area of lung corresponding to such infection. Wasdin states that many of these cases might be overlooked as being due to simple bronchitis, but that the condition is unilateral and the sputum contains bacteria indistinguishable from the typhoid bacillus; pneumococci may also be present. These assertions open a new field for research work as they are well borne out by the admitted frequency of bronchitis in early enteric fever and to the undoubted occurrence of the disease without bowel lesions and to the descriptions of pneumotyphoid of French authors. It is also quite possible that many of the "bacilli carriers" who are stated as never having had enteric fever have really had it as a pneumonic rather than in the intestinal form, and as such it has escaped diagnosis. Enteric fever must no longer be regarded as a mere specific enteritis, but rather as a general septicæmia with local manifestations occurring in the course of the disease in various parts of the body, the bacilli being thrown out in all the body excreta. The enteric bacilli can be obtained from the blood quite early in the disease, while it is hard to isolate them from the stools before the second week. As evidence of the relationship between possible aerial infection of the lungs by dust and the occurrence of early pneumonia or early bronchitis the writer has examined the records of 1384 admissions for enteric fever for one year which occurred in military hospitals throughout all India in which symptoms of either early pneumonia or early bronchitis were specially asked to be looked for, and it was found that no less than 10 per cent. of cases gave symptoms of early pneumonia and over 20 per cent. showed early bronchitis. This tends partly to confirm the statement made of enteric fever by Wasdin in 1902: "It is possible the original seat of infection is often in the lung." In some of the above noted cases of supposed aerial infection by dust, the lung symptoms were the most severe complications present and passed into a form of bronchopneumonia, some even proving fatal from this cause; in others small gangrenous cavities were found in the lungs post mortem. Similar cases were seen during the South African war.

Returning to dust as a causal factor, the following example may be mentioned which occurred at Ambala in the month of April. It was noticed that the majority of cases occurred in a certain cavalry regiment which had been going through a course of equitation, and the men complained very much of the clouds of dust in the riding school which was outside barracks in the open; many of the patients attributed their attacks to the heavy dust. The source from which the soil in the riding school had been obtained could not be ascertained, but under medical advice the officer commanding the regiment changed the class to a fresh ground and selected a site outside barracks in the open country for the purpose, thus mitigating the dust nuisance to a considerable extent. The result was most satisfactory and very few cases occurred after the change was made. Visbecq[3] has published some most interesting notes bearing on the infection of dust in causing enteric fever amongst the troops in the French army. In one outbreak troops were infected by dust blowing from fields covered with human excreta; in another instance

[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of Jan. 2nd (p. 62), 9th (p. 134), 16th (p. 197), 23rd (p. 277), and 30th, (p. 353), and Feb. 6th, 1909 (p. 427), respectively.

[2] American Medicine, Feb. 8th, 1902.

[3] Archives de Médecine et de Pharmacie Militaires, June, 1903.

infected soil was used to make the floor of a new riding school. In a third outbreak at Tunis fæcally infected dust gathered from the leaves of adjacent trees showed marked bacterial evidence of the bacilli.

Koch looks on soil near privies and latrines as a very grave danger from the ease with which it may be carried about to houses, etc., on the boots of those who enter latrines. It may also be noted that soil contaminated by cook-house or other saline sullage water offers a ready habitat whereby the bacillus typhosus is afforded a medium whereon it can readily multiply. Savage has found that the bacillus can survive readily for two weeks in saline mud, and a certain number can hold out for at least five weeks. Although the bacillus cannot live longer than this in soil in pure culture it can undergo changes rendering it capable of living as a saprophyte therein; and Claudity has succeeded in obtaining experimentally such a race that does not die out in soil. It is also possible that the typhoid bacillus may exist in soil in some hitherto undiscovered form and may play an important rôle in the spread of enteric fever. Aldridge[4] recovered typhoid bacilli in India from earth contaminated by the urine of patients suffering from typhoid bacilluria on the first, fourth, and ninth day of drying. Harrison[5] has recovered typhoid bacilli from Indian dust after 77½ hours, during 23 hours of which the dust was exposed to the direct rays of the Indian sun at Kasauli (Punjab).

Firth and Horrocks,[6] working under home conditions at Netley, have recovered the bacillus from dry earth up to 25 days after complete drying, and in dust exposed to the sun for 14 days, during 122 hours of which the bacilli were exposed to sunshine. Desiccation is, of course, much more rapid and complete in India than in England, and the typhoid bacillus survives exposure to the sun in India for a much shorter period than it can do under the same conditions in England; but it can survive sufficiently potent for mischief, to be blown about barracks and camps in dust, causing water and food to become infected. The older methods in vogue in India of carrying bread from the ration stand to barracks, sometimes in a blanket off a bed, and of keeping it in ill-fitting cupboards or exposed on shelves in barrack rooms, offer innumerable opportunities for it to become a medium for carrying the infection of enteric fever and adequate means for preventing this were very necessary. Or, again, the dry mud floors of latrines used by troops, which may become infected, becomes a ready focus of infection either by aerial means or by being conveyed by soldiers' boots to the floors of barrack-rooms in which they sleep and have their meals. Finally, I would invite attention to the conclusions arrived at by Firth and Horrocks in so far as the subject of soil and dust infection is concerned; these are briefly: (1) that the bacillus typhosus is capable of surviving in moist soil sometimes as long as 74 days and that this survival is independent of either pollution or the reverse but is mainly dependent upon the amount of moisture present; (2) that from ordinary soil kept damp with rain water the bacillus could be recovered on the sixty-seventh day, with dilute raw sewage on the fifty-fourth day, and with dilute sterile sewage on the seventy-fourth day; (3) that infective material could be readily carried about from dried soil and sand by air currents; and (4) that infected dry soil if blown about as dust is capable of infecting distant objects after 24 days from the time of desiccation.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE council of the University has issued an appeal for £250,000. This may seem a large sum, particularly at the present time when trade is dull and the future looms darkly before the eyes of landowners and manufacturers, yet if the inhabitants of the city and district were thoroughly interested in the advance of education and research, and if they fully appreciated the advantages of their University, which has grown so rapidly and has already done so much good work, there should be no difficulty in raising the amount quickly and, if necessary, at regular intervals. This cannot be done, however, if the necessary support is to be derived from a few wealthy and generous people, but it could readily be done if the object were made a definitely popular one and the people as a whole rose to the determination that their University should be second to none, and that they would secure for themselves and their children all the advantages that accrue from the establishment of an active, well-supported centre of teaching and research in the midst of any community. To secure all the possible advantages, to place their University in a position not only to continue the work it has begun but also to enable it to advance still further, all that is necessary is that less than one-third of the estimated number of the inhabitants of the city and the immediately surrounding district should subscribe an average of £1 per head about once in ten years.

Greater Birmingham.

In association with the development of Birmingham there have grown up around the city a number of districts. All are more or less closely associated with the city, but each is governed by its own authorities. The question whether this condition of affairs should be continued or whether unification should take place has been raised on more than one occasion and is now again being brought prominently forward. At present the city boundaries enclose 12,639 acres and the inhabitants number 553,155. If the immediately surrounding townships and districts were incorporated the acreage would be increased to 39,163 and the inhabitants to 853,105. Whether the incorporation would or would not on the whole be an advantage for all is the question at present under discussion. Many difficulties stand in the way of an incorporation scheme, but there can be little doubt that incorporation would eventually be of advantage from a public health point of view, for in this respect uniformity of system and central control must work better than similar systems under different controls and still better than differing systems in closely connected areas.

Housing Reform.

The work of a housing committee in a city beset with many slums must always be difficult, and the action it takes, if it does its duty and works conscientiously for the good of the public health, must necessarily render it obnoxious to certain people. Moreover, its action must at times result in hardship to poor property owners and it is the duty of the committee to minimise such hardship as much as possible. Our housing committee has been working regularly and enthusiastically with a definite policy and even its most determined opponents cannot deny that it has done a very large amount of excellent work, but they claim that its enthusiasm has carried it too far, and that though its ideals are good it is demanding what is practically impossible in present circumstances if justice is to be done to owners as well as occupiers. At the present moment the opponents of the committee are active in the council. They urge that the committee is exceeding its powers, that its work overlaps and clashes with that of the public works, health, and estate committees, and by a vote of 22 to 16 they have sent back its recent report with instructions to confer with the other committees with the object of preventing overlapping and unnecessary expense. This is undoubtedly a rebuff which scarcely seems justified by the evidence as set forth by the opponents of the committee. It is possible that for a time it may retard progress but it will eventually strengthen the committee's position and enable it to advance its work more rapidly than in the past. It seems particularly hard on the owners of property that they may be forced to make many and expensive improvements in property which they did not erect and which was approved by the authorities at the time it was erected. Leaving these points aside, when we look at the improvements which the committee has brought about the action of the council in sending back its report seems at least ungracious, and it is probable that the vote does not represent the opinion of the majority of the members of the council, for only about half of the total number voted upon the amendment by which the report was referred.

Feb. 9th.

[4] Indian Medical Gazette, July, 1903.
[5] Royal Army Medical Corps Journal, June, 1904.
[6] Brit. Med. Jour., Sept. 27th, 1902.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Increasing Parasitic Skin Disease.

AT a meeting of the supporters of the Manchester and Salford Hospital for Skin Diseases held on Feb. 4th the medical staff in their report, which was very satisfactory as regards the work and progress of the hospital, stated that "parasitic diseases of all kinds, especially scabies and impetigo contagiosa, are still increasing and form a large proportion of the new cases." In replying to a vote of thanks to the medical staff, Dr. G. H. Lancashire again alluded to the great increase in the cases of parasitic skin disease, and said that if the report could be taken as an index of the prevalence of this class of disease in Manchester and Salford it was worthy of the attention of their medical officers of health and the public authorities generally. They were not getting at the root of the trouble and were not eradicating the disease in the people's homes as he thought they ought to do. This increase had been going on for seven or eight years. One or two representatives of a family would be infected but the house was never properly cleansed, and so the thing went on indefinitely. This tells of a serious and disgusting state of things that will require all the energies of the existing sanitary agencies to cope with it to any purpose. The medical inspection of school children will be useful in detecting these diseases, among others, but Dr. Lancashire is no doubt right in holding forth the necessity there is for following the cases to the home. There is some difference of opinion as to there being really greater prevalence of these diseases in Manchester generally than was formerly the case, but there is no doubt they are far too prevalent. It is probable that some of the clauses of the Children Act will very soon be put in force, as a local education authority may direct its medical officer or any person acting with his authority to examine, in any public elementary school provided or maintained by it, the person and clothing of any child attending the school, and if thought needful may call on the parent or guardian of the child to cleanse the person and clothing of the child within 24 hours after the receipt of the notice. Failing compliance the medical officer may remove the child from the school and have the cleansing process carried out "in suitable premises and with suitable appliances." Where the sanitary authority, within the education authority's district, has provided these premises or appliances the education authority shall have the use of them, with or without payment, as may be agreed on. In Manchester the sanitary authority is practically the sanitary committee of the city council. It is thought that a couple of cottages will be acquired in certain districts, to which children affected will be taken and detained there till the "cleansing" is complete. But even this does not provide for the "cleansing" of the homes, where what may be called the permanent stock will be quite sufficient to supply the children who may have been cleansed with a fresh start. This source of mischief will be difficult to cut off.

University Public Health Laboratory.

Dr. E. J. Sidebotham has sent to one of the local papers an interesting account of the work of the public health laboratory now in connexion with the University of Manchester. It was started in 1882 by the professor of pathology, whose advice was often sought by the sanitary authorities of the district. This led to his conducting investigations and giving gratuitous advice, much to their benefit. In 1886 it was organised on its present basis, and in 1902 it was recognised as a separate department by the University. In 1896 three sanitary authorities were connected with it and 300 reports were made by the staff. During the past year 8200 have been sent out and it is officially connected with 82 sanitary authorities. Since its establishment 488 students have worked in the laboratory and 162 have obtained diplomas in public health or in veterinary State medicine, and 82 of these now hold important appointments in the sanitary service of this country or the colonies. The public work of the laboratory, of course, takes up a great deal of time, but research work has been carried on in various directions, as, for example, work relating to disinfection, food poisoning, cancer, water-supplies, and the diagnosis and prevention of various diseases. Professor S. Delépine has been, of course, the central figure, but he is ably seconded by strenuous workers in the same field.

Altrincham and Infectious Disease.

On Feb. 3rd the first sod was cut on the site of a new hospital for infectious disease for Altrincham. It will have 34 beds and is expected to cost over £11,000. The present hospital has been used for 56 years, and is in a populous district and the county council refused to recognise it or to contribute to its maintenance. To the new hospital the county council will give one-third of the cost and one-third of the maintenance charges. Being within the area of the Bucklow rural council, arrangements have been made for receiving patients from the district of the Bucklow joint hospital board when beds are available.

The Midwives Act Committee.

The National Association of Midwives meeting held in Manchester has adopted a motion calling the attention of the President of the Council to the omission from the Departmental Committee now inquiring into the working of the Midwives Act of any direct representative of the midwives of the country. The association therefore urges that a direct representative shall be added to the Committee. Another contested election may therefore be added to those we already have and it may serve as an illustration of female suffrage *ad hoc*.

Feb. 9th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Conference on the Milk-Supply.

A JOINT meeting of the Midland and West of England and South Wales branches of the Society of Medical Officers of Health was held at Hereford on Feb. 4th under the presidency of Mr. L. M. Bowen-Jones, medical officer of health of Carmarthen, when the dairy farmers from the surrounding district were invited to discuss the measures which should be adopted to improve the conditions under which a great deal of milk is at present supplied. The conference was well attended and the questions considered had reference to the best means of reducing the amount of dirt present in milk and thereby reducing the number of organisms, the protection of milk from disease germs, the compulsory cooling of milk immediately it has been drawn, and improvements in the arrangements for the carriage of milk by rail, particularly with respect to the prevention of a subsequent rise in temperature above 60° F. There was a very general agreement as to the necessity for constant and regular inspection of dairy farms and as to steps being taken by local authorities to prevent milk from tuberculous cows being supplied for human consumption. The object of the meeting appears to have been achieved, for there was a free interchange of views among those present, and though agreement upon all points was hardly to be expected it is satisfactory to find that most of the points of variance were only questions of degree.

A Crematorium for Cardiff.

At the last meeting of the Cardiff city council there was a short discussion upon the propriety of establishing a crematorium for the city, but it was decided by 13 votes to 12 to take no action in the matter. The question had been under consideration by the parks and cemeteries committee when plans of a crematorium had been submitted by the city engineer who estimated the cost of his scheme at between £5000 and £6000. It is stated that there is ample burial space in the existing cemeteries for the next 38 years, assuming that the increase in the population is no greater than at the present time and that the death-rate is not increased. Those who advocate the erection of a crematorium point out that although only a few years ago the cemeteries were well outside the town they are now almost completely surrounded by houses. The opponents of the scheme state that there is a deep-seated religious objection to cremation. From a recently issued return it appears that during 1908 there were cremated at the 14 crematoriums in this country 819 bodies, of which number 483 were cremated at Woking and Golder's Green.

Vital Statistics of Cardiff for 1908.

The medical officer of health of Cardiff (Dr. E. Walford) has issued a preliminary report in which he gives the principal vital statistics for 1908. The estimated population at the middle of the year was 191,446. The birth-rate was 27 per 1000 of the population living and the death-rate 13·2 per 1000. These rates in 1907 were 25·9 and 15 respectively. Of the principal zymotic diseases the death-rate was 1·14 per 1000, compared with 1·91 in 1907. The infantile mortality rate was 124 per 1000 births registered, or a little above the rate (121) in the whole of England and Wales. In 1903 the rate for Cardiff was 122 and in 1905 it was 118. Dr. Walford appears to be fully alive to the necessity for reducing the mortality among young children and in his report for 1907 expressed the opinion that among other methods having this end in view there should be adopted a further development of the existing system of visits by women inspectors, with the object of encouraging breast feeding of infants and of educating mothers in the best means of preserving their own health as well as that of their children; better control and supervision of milk supplies; and special attention to the cleansing of streets and flushing of street gullies and the removal of all offensive accumulations during the summer months.

Feb. 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh City Hospital.

THE town clerk of the city of Edinburgh has received a letter from the secretary of the Local Government Board with reference to the city hospital which has given great satisfaction to all connected with, or interested in, the conduct of what has become a great public institution of increasing value to all classes of the community. The letter says that "the Local Government Board have had under consideration a report, dated 20th inst. (January), by Dr. Dittmar, their medical inspector, as the result of visits paid on 18th and 19th inst. to the Infectious Diseases Hospital at Colinton Mains, and they direct me (the secretary) to transmit the following extract therefrom for the information of the local authority—viz.: 'So far as I could judge the administration is excellent. I would sum up my general impression of the hospital in all its parts as being by far the finest and best adapted for its purpose that I have seen. I do not think that Colinton Mains Hospital could be materially improved on in construction or general arrangements.'" Any complaints which are heard from practitioners are no longer with regard to internal administration but bear upon the amount of pressure put upon certain classes to have scarlet fever and other infectious cases removed to hospital and without seeking guidance from the medical attendant before doing so. Here a good deal of dissatisfaction and disapproval are expressed. Other classes of the community are using the hospital more than formerly as it saves a whole family being prevented from attending school for many weeks because of the presence of an infectious disease in the home. What is heard of the hospital from this latter class is most satisfactory and Dr. C. B. Ker, the medical superintendent, is universally recognised as carrying on the medical work admirably.

The Medical Inspection of School Children.

The Govan school board has issued a digest of the reports of medical officers on the results of the medical inspection of children in its schools. The ages dealt with are from five to ten years, as below and above those ages the numbers dealt with are not sufficient to give trustworthy averages. For the purpose of showing the effect of environment—parental care, home life, and surroundings—on the children the schools have been arranged in three classes: (1) better; (2) medium; and (3) lower. As regards height, the general average of the boys and of the girls is below the standard, with the exception of girls at the age of five years. Both in weights and heights an enormous drop occurs in ages from nine to ten years, and this is greater in the boys than in the girls. Speaking generally, in the schools which fall into Class I. the averages for height and weight are up to the standard. Class II. is always below Class I. in height and weight, and Class III. markedly below both. But it is noteworthy that at the age of ten years all the classes, just as well as the general average, are below standard both in height and weight, but more especially in weight. Some further inquiry seems necessary to explain this very striking fact. The total number of schedules filled up during the year was 12,643, and it is natural that among so many children diseases should have been observed. It is very noticeable, as one would expect, that diseases due to lack of cleanliness and to neglect are distributed according to the localities in which the schools are situated; thus in the returns of several schools skin diseases and rickets are almost entirely absent. In one respect, however, perusal of the report does not show any marked superiority of the better class schools over the others, and that is in the care of the children's teeth. As regards vision, after giving details of the method of testing carried out in the schools by the teachers, the report states that the returns show percentages below normal for the various schools, varying from 6·5 to 77·8, and it is added that it is evident that there has been lack of uniformity in the methods of examination.

Royal Hospital for Sick Children, Glasgow.

The twenty-sixth annual report for this hospital shows that the number of cases treated during the year was 1078, of which 560 were medical and 518 surgical. Of the cases admitted 178 were infants under one year and 174 were over one and under two years of age. During the year there were 166 deaths. The percentage of deaths to the total discharged was 16·41, but excluding 41 children who were so ill when admitted that they died within 48 hours thereafter the percentage was reduced to 12·36. The average daily number under treatment in the hospital was 67 and the average duration of residence was 24·15 days. The country branch at Drumchapel has proved a valuable extension to the hospital, the average daily number in residence there being 27·26. Of the £100,000 needed for the rebuilding of the hospital nearly £73,000 have been subscribed and a new site has been purchased on which it is proposed shortly to commence building operations.

Fire at Glasgow Royal Infirmary.

An alarming fire occurred last Sunday in Glasgow Royal Infirmary. The outbreak was confined to the chapel situated at the top of the main building and was due to a radiator overheating the woodwork in close proximity. Fortunately the outbreak occurred while service was being held and was noticed at once but was not checked by the fire brigade before flames were seen issuing outside from the base of the dome which surmounts the chapel. Adjoining the chapel are two medical wards each containing 20 patients, and to avoid risk when the discovery was made these patients were removed to other parts of the building by the members of the infirmary staff, the board room being fitted up as a temporary ward. The outbreak was speedily checked after the arrival of the fire brigade, but it is estimated that the damage will amount to about £1000. Fortunately the fire occurred in an old part of the building which is down in the plan to be shortly reconstructed.

Status of an Unregistered Dentist.

In a judgment issued at the Sheriff Court, Hamilton, in connexion with a case at the instance of a dentist against a customer for recovery of a sum for remaking a set of teeth, the sheriff dealt with the question as to the power of an unregistered dentist to recover fees and charges for work done. The pursuer's agent cited the judgment of an English court in support of his contention that the Dentists Act only prohibited an unregistered dentist from recovering charges for operations such as teeth extraction, &c. The Medical Act of 1886 was quoted by the defender to show that the prohibition embraced charges for other dental operations. The sheriff took the latter view. The Act, he said, was wider in its application than admitted by the pursuer who was not a registered dentist. The sheriff therefore held that the pursuer was not entitled to recover payment for the work done and granted absolvitor with expenses.

Death of Dr. George Watt.

The death took place on Feb. 3rd, at his residence in Golden-square, Aberdeen, of Dr. George Watt, a well-known local practitioner. Dr. Watt, who was 61 years of age and a native of Donside, graduated M.B., C.M. at the University of Aberdeen in 1876. After four years' practice in

Yorkshire he returned to Aberdeen and soon built up a very large general practice. He was for several years on the staff of the Aberdeen Dispensary, was medical officer for Blair's College and Nazareth House, and sole referee for the Prudential Assurance Company. In connexion with the Medico-Chirurgical Society, of which he was an ex-president, he took a great interest in the widows' fund and acted as treasurer for it. Dr. Watt was a justice of the peace and a member of the session of the West Parish Church. He married a daughter of the late Mr. Charles Nidray of Aberdeen and is survived by her and by an only daughter. Dr. Watt, who was of a quiet, kindly disposition, was held in universal esteem, alike by the public and by the profession which he had adopted.

Death of Dr. James Key.

Intelligence was received at Montrose on Feb. 3rd of the death, in Roodepoort, Transvaal, of Dr. James M. Key, eldest son of Dr. Andrew Key, Montrose. Dr. Key, who was educated at Montrose Academy and the Grammar School of Aberdeen, graduated M.B., C.M., at the University of Aberdeen in 1890. A few years later he went to South Africa; he served throughout the Boer War, gaining the South African and the King's medal with three bars. At the termination of the war he received a Government appointment in the South African Constabulary. Dr. Key had the distinction of receiving Lord Roberts on the distinguished Field Marshal reaching Bloemfontein.

Feb. 9th

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Richmond Lunatic Asylum: Auditor's Report.

THE report of the auditor of the Local Government Board on the accounts of the Richmond Lunatic Asylum (dated Jan. 8th, 1909) has just been issued. The average annual cost per patient for the year exhibits an increase of £1 3*s.* 7*d.* as compared with that of the preceding year. An examination of the expenditure shows that the principal heads of service under which the increase has developed are: bedding, increase of 4*s.* 9*d.* per patient; clothing, 9*s.* 6*d.*; fuel and light, 6*s.* 8*d.*; repairs and alterations, 3*s.* Of these various items of increase the largest is partly accounted for by the unusual expenditure incurred in this department for 200 inmates of workhouses who had been transferred to the asylum just before the end of the year, while in connexion with the fuel and light item it should be noted that the average price of coal was 20 per cent. in excess of the prices for the previous year. There is a substantial increase of £650 in receipts from paying patients. The total revenue for the year is £3703, which is more than £350 over that of the highest record reached in previous years. The amount realised by sales of farm and garden produce has been relatively small, but the asylums have been supplied with milk, meat, vegetables, &c., of an estimated value exceeding £7300, while the profits shown by the farm accounts for the same year reached a total of £1879. This figure does not, however, include any charge for inmate labour. Among the charges disallowed by the auditor as excessive were costs incurred in the lodgment of a petition against the Dublin Corporation (Various Powers) Bill. The report adds that the excellent manner in which the accounts were kept considerably expedited the work of a necessarily heavy audit.

Research Defence Society: Inaugural Meeting.

The inaugural meeting of the Research Defence Society (to which reference has already been made) "went off" with auspicious success. The chair was occupied by Sir John G. Nutting, Bart., D.L., in the unavoidable absence of Earl Cromer, President of the London Society. The first motion, "That a Dublin branch of the Research Defence Society be and is hereby established," was proposed by the Very Rev. Dean Bernard, D.D., dean of St. Patrick's Cathedral, who pointed out to his audience that it was humiliating that the advocates of science should be hampered in their efforts and hindered as to their methods, and added that the new society was established in the cause of humanity. He regarded it in very much the same light as he regarded the Society for the Prevention of Cruelty to Children. It was being established in the name of humanity, and was a truly humanitarian society. In seconding the motion Count Plunkett pointed out that they did not ask for liberty to inflict purposeless pain; what they asked was "that men of science should be allowed to strike at the root of human suffering." Mr. Stephen Paget, who had a great reception, explained the general objects of the society. Mr. A. J. Horne (President of the Royal College of Physicians of Ireland) proposed the vote of thanks to Earl Cromer for the kind message delivered by Mr. Paget, which was seconded by the Right Hon. T. W. Russell. On the motion of the Rev. T. A. Finlay, S.J., which was seconded by Mr. Alexander Blood, K.C., the executive committee of the Dublin branch was formed of the following members: Dr. J. B. Coleman, C.M.G., Mrs. Francis Dixon, Dr. F. J. Dunne, Dr. J. Magee Finny (President of the Royal Academy of Medicine in Ireland), Mr. J. Geoghegan, Mr. Horne, Mr. John Lentaigne (President of the Royal College of Surgeons in Ireland), Dr. J. Lumsden, Professor Mettam, Miss Isabella Mulvany, LL.D., Professor E. J. McWeeney, Count Plunkett, Mr. George Prescott, Dr. Scharff, Mr. L. E. Steele, Sir Henry R. Swanzy, and Professor W. H. Thompson. Thus the opening of the Research Defence Society was supported by the leading representatives of *all* the learned professions, and the proceedings terminated in a chorus of ominous applause.

The Royal University of Ireland.

At a meeting of the Senate of the Royal University of Ireland held on Feb. 5th all the examiners of the previous year were reappointed for 1909. There will be the usual medical examinations this year in spring and autumn.

Quack Doctors.

At Dungannon petty sessions on Feb. 8th a man named James M'Guire was charged, at the instance of the Medical Defence Union, with having at Dungannon on Jan. 16th, 1908, and on various other occasions falsely pretended to be a registered practitioner within the meaning of the Medical Acts, 1858 and 1886. The defendant is well known throughout the country, being in the habit of attending fairs and markets and delivering lectures and treating patients. Evidence was given that on Jan. 16th the defendant had a table in Market-square on which were displayed framed cards stating that the defendant held the diplomas of Licentiate of the Royal College of Surgeons in Ireland, Licentiate of the Royal College of Physicians (Edinburgh), Licentiate of the Royal College of Surgeons (England), Licentiate of the Apothecaries' Hall (Dublin), Licentiate in Midwifery, and Licentiate of the Royal College of Physicians. He had also framed cards of invitation from the President and Fellows of the Royal College of Physicians requesting the "honour of Dr. James M'Guire's and lady's company" at several functions. One of these invitation cards appeared to have had the original name scraped out and that of "James M'Guire" inserted. Witness heard the defendant tell the crowd that he possessed all the diplomas stated. Mr. John Young, the proprietor of the *Portadown News*, produced an advertisement which the defendant had had inserted in the newspaper for 13 weeks. It described the defendant as possessing the several titles mentioned and stated: "All cancer diseases, all chronic cases of rheumatics, joint diseases, and convulsion fits cured by the celebrated Doctor M'Guire," adding that a lady had been cured by him of cancer after having been fruitlessly treated by 11 professors in the Mater Misericordiæ Hospital, Dublin, and turned out incurable. Mr. Meglaughlin then handed in the Medical Register for 1908, which was to be taken as conclusive evidence of the registration of medical men and in which the defendant's name did not appear. He said that the case was a very serious one. The magistrates by a majority imposed the maximum fine of £20 and costs.

Adulterated Milk.

At the Portadown petty sessions on Feb. 8th a farmer was prosecuted by the Armagh county council for selling adulterated butter-milk in Portadown, and was fined £1 and 13*s.* 6*d.* costs. The chairman of the justices, in giving judgment, said that if there were any more cases of this kind brought before the magistrates a much heavier penalty would be imposed.

The Belfast Hospital for Sick Children.

At the thirty-sixth annual meeting of the supporters of this hospital, held on Jan. 28th, it was reported that 666

intern patients were treated in the wards during the past year, 237 being medical, 406 surgical, and 23 eye or ear; while in the out-patient department there were 12,069 attendances. It was intimated that the question of the compulsory attendance of students at children's hospitals would be brought officially under the notice of the Belfast University Commission. The number of students voluntarily attending the clinical classes at the children's hospital was much larger than in previous years. Financially there was a slight decrease in the subscription list, but the hospital had £16,000 funds invested and the interest on the accumulated capital had increased by £100 during last year.

Forster Green Hospital, Belfast.

At the annual meeting of the supporters of this hospital held on Jan. 29th it was reported that there had been 425 new extern patients. At the beginning of the year there were 30 patients in hospital and 137 were admitted during the year, making 167 in all treated during the 12 months. During the past year the hospital has been overhauled and enlarged and there is now accommodation for 73 patients, an arrangement having been made to provide 35 beds for the city corporation health department. Dr. R. J. Purdon has retired from the active and has been placed on the consulting staff and by the election of Dr. Thomas Houston, Dr. J. E. MacIlwaine, and Dr. J. C. Rankin additions have been made to the visiting staff. Dr. Foster Coates has been elected to attend to the extern work, the dispensary being open on four days of the week, and a trained nurse visits the homes of applicants and looks after patients when discharged from the hospital.

Health of Belfast.

At the usual monthly meeting of the city corporation held on Feb. 1st it was reported that between Dec. 20th, 1908, and Jan. 16th, 1909, there had been notified 80 cases of infectious disease, which included 9 cases of enteric fever, 22 of scarlet fever, 4 of "simple continued fever," 1 of puerperal fever, 18 of diphtheria, 1 of croup, 24 of erysipelas, and one of cerebro-spinal fever. There is a marked decrease in notifiable diseases, especially of enteric fever. The average annual death-rate per 1000 from all causes was 20·2, as compared with 27·1 in the corresponding period of last year. The rate from chest affections and zymotic diseases is lower than in 1908, being 8·9 and 0·5 as compared with 10·5 and 3·8 respectively. The comparative absence of disease during the present winter in Belfast and the surrounding neighbourhood is remarkable.

Feb. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Prophylactic Hæmostasis in Operations on the Pelvis and Lower Limbs.

AT the Surgical Society on Jan. 13th M. Willems described a method recently proposed in Germany to insure hæmostasis in operations upon the pelvis and the base of the thighs. It consists in diminishing the circulation by constricting the body round the waist with a thick rubber tube. M. Willems has used this method in four cases. In three of them hæmostasis was obtained very easily, all of the patients being thin. The fourth was a woman with marked scoliosis which prevented the tube being passed between the ribs and the iliac crest. The desired result was, however, obtained by the use of a compress. At the beginning perfect hæmostasis is obtained, but if the operation lasts longer than ten minutes general oozing takes place, probably because numerous small collateral vessels escape from compression. The pressure increases the volume of the radial pulse perceptibly. When the tourniquet is removed the pulse increases in frequency. There are no noteworthy secondary effects and the patients do not complain of any discomfort.

The Bad Effect of Ventilators in Crowded Rooms.

At the Biological Society on Jan. 16th M. Sartory and M. Filassier communicated the results of experiments relating to the use of ventilators, whether communicating with the outside air or not, experiments which went to prove that not only are ventilators useless except those of certain makes which have been installed on scientific lines, but they actually create an intense draught capable of disseminating very dangerous dust. They caused a rapid increase in the number of microbes contained in the air of the room. In one instance there were 18,000 per cubic metre before the ventilator was put in action; whilst an hour after this was done the number rose to 42,000 and at the end of two hours it was 65,000.

Complete Excision of the Clavicle for a Congenital Tumour.

M. Legueu communicated a case reported by M. Guibe to the Surgical Society on Jan. 27th. A woman, 50 years of age, had a pulsating tumour of one year's growth on the outer part of her clavicle. The bone was completely removed with no other mishap than a slight wound to the subclavicular vein. The patient recovered and the functional result is excellent; all movements are possible and are nearly as perfect as if the clavicle were still in its place. Histological examination of the tumour shows it to be of a thyroid nature, due probably to an inclusion of embryonic tissue at the time of the formation of the clavicle. Tumours of this kind are extremely rare.

The Disinfection of Cancerous Ulcers Previously to Excision.

One of the greatest drawbacks to the surgical treatment of cancer has been the fact that ulcerated surfaces, if present, nearly always contaminate the field of operation. These foul surfaces are also extremely septic and are responsible for a large number of operative failures. M. Quénu has called attention on several occasions to this danger and has advocated a preliminary curettage of the uterus and the closing of the rectum before the excision of those organs for cancer. Unfortunately, these measures are not always sufficient. M. Quénu now uses a much more radical method, which he described to the Surgical Society on Jan. 27th. He directs a jet of air heated to 300° or 400° C. on to the ulcerated surface of the cancer. To prove the efficiency of this method M. Quénu has had the tissues examined after their removal and has found that they give rise to no growth either in an aerobic or a non-aerobic medium.

The Influence of Currents of Air upon the Organism.

On Jan. 31st M. Maurel read a paper before the Biological Society on the Influence of Currents of Air on Guinea-pigs. He found that in guinea-pigs exposed to air moving at about 12 kilometres per hour their tissue change (*dépense*) was increased by about a sixth. At the same time their appetite increased, so that the extra output was more than compensated for by the additional amount of nourishment absorbed. Their growth was not only not hindered but increased. These results, said M. Maurel, may help to explain the benefits received by children living an open-air life where the air is in fairly rapid motion.

Feb. 9th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The University of Messina.

THE collapsed city had a university and a court of appeal, and these it is proposed to resuscitate in the "New Messina." But other proposals, responding to other ambitions, are heard in the national counsels, and these are urging the transference of the extinct court of appeal to Milazzo and the extinct university to Bari. As to the former institution I have no opinion to give, but as to the second I am inclined to agree with those who would acquiesce in the permanent effacement of the university from the academic *rôle*, not replacing it even temporarily by another university elsewhere. The fact is, as all the best educational authorities admit, Italy suffers from a plethora of seats of learning, all of them poorly endowed and equipped and keeping up a rivalry by no means conducive to healthy academic life or to the value of the degrees which qualify for the professions. Indeed, so sagacious and accomplished a teacher as Francesco Saverio Nitti, who holds the chair of political economy in the University of Naples, goes so far as to say that every new "Scuola Superiore" (qualifying body) created is a "delitto" (a crime) committed—intensifying a disease which is devouring all that is most vital in academic Italy. A former Minister of Public Instruction and one of the most enlightened, Dr. Guido Baccelli, to wit, professor of clinical medicine in

the Roman school, proposed to extinguish all the Italian universities except four which, additionally endowed and equipped from the resources of the others, would maintain a standard of efficiency creditable to Italy and insure the granting of degrees to none but to the rightly qualified. There are as many as 11 seats of learning possessing four or five faculties (besides many others possessing fewer), and of the former Messina comes last in the list, numbering in the *annus academicus* opened last autumn only 578 students—that is, a few more than those in attendance at the Istituto dei Studi Superiori of Florence, which is not a university at all. Sicily already has, in Catania and Palermo, universities more than adequate to her wants. Why not enrich these with the endowments or funds on which Messina eked out its existence, and improve them accordingly? Indeed, Italians virtually admit that Sicily might be all the better for having her seats of learning reduced from three to two by urging the transference of what was once the University of Messina to Bari. The Pugliese has no university, they say, and is entitled to have one. But the Calabrese has no university either and his claims are quite as strong as his neighbour's. The truth is that Naples and Rome suffice for all the academic wants of the Pugliese, and if these failed there are also Macerata and Bologna open to him. Nor will it do to say that Naples is already overmanned with students. Many European universities have more—Paris and Berlin, for example, have double the number and Vienna and Budapest certainly more than Naples. Besides, it all makes for "unity" that the studious youth of the various regions, on mainland and in island, should meet under the wing of not more than four *almæ matres* and so contribute to minimise that "parochialism" which clings tenaciously to life throughout the kingdom. As to Messina herself, the harbour, the *entrepôt*, the former seat of busy commercial enterprise, there is nothing but approval and encouragement of her efforts at reconstruction and rehabilitation. "Incipit Messina Nova," is now her motto. No farther back than 1783 she was wiped out by earthquake, but a quarter of a century later, in 1808, she had risen to active and flourishing life, and a still speedier and more prosperous palingenesis seems in store for her.

The Assistenza Medica at the Seat of Earthquake.

About 20,000 is the number of those suffering from bodily lesions due to the late cataclysm—exclusive of those buried alive. In the *Policlinico*, one of the most authoritative of the professional journals, Dr. P. Rossi Doria draws an impressive picture of the delay in supplying the medical staff with the *matériel* and the medicaments necessary to their work—delay for which the central authority is responsible. Four, nay five days elapsed before the said *matériel* and medicaments were available, while from Naples they might have come to hand at Reggio or Messina in 11 hours! The tents were so deficient in accommodation that they could harbour only one patient at a time, and the surgeon had to make his entrance into them by creeping on all fours! Field hospitals there were none in these first days, and yet there were any quantity in Rome which could have been early on the spot but for "bureaucratic difficulties" (in other words, red tape) which, according to the *Policlinico*, explains all the inadequacy of the attempts at first aid. A remedy for this deplorable state of things would, he says, be this: Every commune in the kingdom, from the smallest to the greatest, ought, in proportion to its resources, to have ready all the *matériel* and *personnel* necessary for first aid on the shortest notice. Tents, stretchers, medicaments, and such like should be at the immediate command of the municipal medical staff, the staff in question being so organised as to be capable of action, combined and graduated, on every occasion of disaster, whether telluric, as on the Siculo-Calabrian littoral; or riparian, as in the autumnal inundations; or industrial, as in the conflagrations of factories; or in the railway accidents and kindred mishaps all too frequent in these days of multiplied and accelerated movement. It is proposed that legislation on something like these lines should be promoted *quam primum* by the federated associations of medical practitioners throughout the country if Italy is not to be "caught napping," as she so often is on occasions of public disaster—to her discredit (as Dr. Rossi Doria remarks) in the eyes of her contemporaries abroad and to her self-reproach and humiliation at home.

Feb. 8th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Government Expenditure for Medical Teaching.

IN the Budget for this year the Government has made a considerable appropriation for medical purposes, amounting to about 5,000,000 crowns for the ordinary and 2,000,000 for the extraordinary requirements. In the seven medical faculties of Austria there are 112 ordinary professors, 57 "extraordinarii" (professors paid by the State but ranked under the "ordinarii"), and 293 paid assistants, besides 16 technical assistants. The number of *privat-docenten* does not appear in the Budget as they are not paid, but their number may be estimated at 400, of which number 240 reside in Vienna alone. The sum of 5,000,000 crowns (£218,000) is divided among the faculties of Vienna (1,800,000), Graz (450,000), Innsbruck (700,000), Prague (720,000 for the German and 670,000 for the Slavic faculty), Lemberg (450,000), and Cracow which requires 600,000 crowns. The extraordinary grant will go to the building of a new chemical and physiological institute in Vienna, a pharmacological institute in Prague, as well as a theatre for the pathological and the forensic institute, and a psychiatric wing in the Cracow University Hospital.

Investigations on the Action of X Rays in Leukæmia.

In a series of observations made by Dr. Pribram and Dr. Rotky and communicated by them to the Bohemian Society of Practitioners the effects of the x rays upon various forms of leukæmia were dealt with. The myeloid forms (four cases) all responded with a considerable drop in the number of leucocytes, ushered in by an increase of the number. The fall affected the pathological forms of leucocytes much more than the normal ones. The blood was never found to return to a normal condition. In recurring cases all forms of leucocytes increased and the treatment of these cases was less satisfactory than in primary ones. The influence of the rays on the spleen was more effectual than that on the bones. In cases of chronic lymphatic leukæmia the number of leucocytes also diminished promptly after exposure to the rays. Recurrence happened only after long intervals; no leucocytosis was observed immediately after the sitting. The rays were directed mainly towards the glands which became much smaller. The percentage relation of the constituents of the blood was not changed by the rays. It was possible to reduce the neutrophile polynuclear cells in a large degree without harming the patient. No effect was obtained in acute lymphatic leukæmia nor were the erythrocytes affected in any case by the rays. Examination of the urine showed, during the phase of reduction of the leucocytosis, an increase in excretion of nitrogen, uric acid, purin bases, and phosphoric acid. As regards the ill-effects of x rays, only slight dermatitis was observed with a marked tendency to heal. On the other hand, the following good effects were noted: improvement in the constitution of the blood, diminished size of the swollen organs, increase in weight, and delay in recurrence, but a complete cure was never effected. The patients made no complaint as regards the treatment.

Notification of Trachoma.

In order to obtain trustworthy records as regards the incidence and extent of trachoma in this country the Board of Health has issued recently the following regulations. Every patient suffering from trachoma has to be reported annually, every 1st of January, to the board by the physician whose regular attention is given to the patient. In hospitals the registrar has to make the report. This case must be known by a number and must be quoted always by this number; if treatment is interrupted and then renewed in the same year the same number must be given to the case. If possible the origin of infection and the place in which it originated should be traced and stated. Change of abode of the patient is to be notified, if possible, to the health bureau of the place of residence. The idea of keeping trachoma patients under strict observation has been made a reality by the fact that several small epidemics have occurred in places otherwise free from this disease and have been traced to hospital patients. As epidemics of trachoma appear regularly in certain regiments of the army recruited

from the eastern parts of the empire the precautions appeal to the military surgeons as well.

Horse Serum in Hæmorrhage.

At a recent meeting of the Medical Society of Vienna Dr. Wirth reported the results of a series of cases of severe hæmorrhage treated by horse serum. The first case was that of a man suffering from hæmophilia with uncontrollable bleeding. The result was excellent. Thereupon Dr. Wirth tried the serum in other cases, such as hæmorrhage after tonsillectomy, epistaxis due to arterial sclerosis, hæmoptysis in pulmonary tuberculosis, and bleeding from the intestinal canal. The method of administration was a subcutaneous injection of 20 cubic centimetres of normal horse serum preferably injected under the skin of the thigh, and in suitable cases local application of the serum by means of a cotton-wool pad soaked in the serum was also made in epistaxis, and in intestinal hæmorrhage the serum was given as an enema. All cases treated by Dr. Wirth had been treated before without any effect with many other orthodox methods. The result was very satisfactory. The use of gelatin, advocated a few years ago, was not free from danger, whilst serum has been proved to have no untoward effect.

An Unusual Cause of Lead Poisoning.

A very interesting case was demonstrated at a meeting of the Gesellschaft der Aerzte by Dr. Teleky. The patient, a man, aged 38 years, had been sent up from the country to the clinic with the diagnosis of chronic appendicitis, and an operation was advised by the resident physician. In the surgical clinic the case was recognised as chronic lead poisoning. The information obtained from the patient as to a series of similarly affected persons in his village led to very searching investigations in the place, with the result that at least 24 persons were found to be suffering in the same way in the particular place. At last the source of the poisoning was found in a public house where a special kind of wine was sold and much favoured by the neighbours. This wine was adulterated with lead. In olden times it was the custom in many country places to put a piece of pure lead in the wine barrels, as it was supposed that the superfluous acid was absorbed by the metal and thus the wine appeared to be improved. This old custom is quite forgotten now, but in the public house in question the old method was somehow brought to life again, and its effect was not only an increase of the sale of this wine—proving the efficaciousness of the time-honoured prescription for wine merchants—but also a series of cases of lead poisoning. The news of the "good" wine had spread quickly in the country and the authorities are now on the look-out for fresh cases.

Feb. 6th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Mortality Amongst the Jews in Budapest.

Dr. Auerbach has made a study of the returns of the death-rate amongst Jewish subjects. He finds that the lowness of the death-rate amongst them is striking, representing only about two-thirds of the average mortality of the nation. From a sociological point of view the mortality of Jews is favourable because the death-rate is lowest amongst their children and able-bodied adults. The figures for the children are very striking. Between 1901–05 out of 1000 live-born children belonging to each of the chief creeds, 268·5 Catholics, 160·9 Jews, and 223·7 children of other creeds died under one year of age. The second part of Dr. Auerbach's article deals with the causes of death, his conclusions being as follows: The Jewish religion has nothing to do with the low death-rate. This is the outcome of social factors only; hitherto excessive stress has been laid on the racial predisposition owing to the defective knowledge of the facts. The low death-rate of Jewish children is not due to their greater resistance but to the better care in nursing on the part of their parents. In considering individual diseases it is striking that Jews are immune against several diseases which claim many victims from people of other creeds. Thus, for instance, uterine cancer and tuberculosis are somewhat less frequent amongst Jews than any other nations. But, on the other hand, Jews seem to be more frequently attacked by diabetes, encephalomalacia, and gastric troubles. According to Dr. Auerbach's opinion the Jews' low death-rate is not a racial character but finds its explanation in their better parental care, their habitual care of their health, their relative abstinence from excessive drinking, in their early marriages, and in the closer family life. Dr. Auerbach emphasises the fact that owing to the preponderance of mental occupation over handwork the rate of cerebral affections is on the increase among Jews. This is particularly felt in the western part of Europe. To counteract this tendency he thinks that the Jews will have to return to occupations connected with bodily work, such as agriculture.

Preparations for the Sixteenth International Congress of Medicine in Budapest.

There is an extraordinarily great interest being shown in the congress to be held between August 29th and Sept. 4th at Budapest. Not only are Hungarian medical men reserving rooms in the hotels but similar orders are fast coming in from abroad. The greatest scientific authorities of foreign countries have promised lectures and papers in unusual numbers. Several international medical societies have notified their intention to hold their yearly meetings at Budapest during the congress; amongst these are the societies concerned with tropical diseases, occupational diseases, and with the protection of infant life. The French Congress of Internal Medicine will be held here also. The post-graduate study tour (*Studien-reise*) of German medical men will start from Budapest after the end of the congress. It will visit the Hungarian spas and summer resorts and then it will travel to the Levant. The Chief Secretary of the German Imperial Central Committee will read a paper on the Reform of Medical Education in Civilised States. The International Medical Press Association will also hold a public session.

A New Internal Remedy for Gonorrhœal Cystitis.

It has been known for long that the good effect of salicylates (salicylate of sodium and salol) on cystitis is greatly reduced by the gastric disturbances which result upon their prolonged use. Urotropin (hexa-methylen-tetramin) is better, inasmuch as it does not irritate the stomach; it, however, not infrequently causes irritation of the bladder and sometimes even hæmaturia. A further drawback of urotropin is that it has little action when the urine is alkaline, because it has been proved that its formalin only becomes free in acid urine. To counteract these defects Dr. Ráskai, lecturer at the University of Budapest, has made a combination of urotropin with salol and camphoric acid. To correct the constipating action of salol he added to these drugs phenolphthalein. This combination of drugs is prepared in the form of tablets. Dr. Ráskai has made extensive experiments with these tablets in various urological affections, comprising acute posterior gonorrhœa, terminal bleeding, different forms of cystitis, retention of urine of prostatic origin, pyelitis, and bacteriuria. In all these cases the tablets have done excellent service in checking frequent micturition and have resulted in the speedy clearing of the urine. The alkalinity of the urine has ceased after four or five tablets have been taken and all the patients have declared themselves better for them. The tablets have acted as powerful adjuvants to the local treatment and have prevented the occurrence of untoward complications.

Feb. 6th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Consulting Experts Approve Chemicals for Preserving Foods.

THE board of experts appointed by the President to determine the question of the dangerous character of chemicals used by manufacturers for the preservation of foods has reversed the decision of Dr. Wiley, the Chief Chemist of the Department of Agriculture, on benzoic acid and its salts. The experts are the most prominent authorities in this country—viz., President Remsen, Johns Hopkins University; Professor Chittenden, of the Sheffield Scientific School of Yale University; Professor Long, of Northwestern University; and Professor Herter, of Columbia University. They report that three independent investigations were carried on, the same general plan of procedure

being followed in all three experiments which was practically the same as that pursued by Dr. Wiley. A certain number of healthy young men were selected as subjects, and during a period of four months these men under definite conditions of diet, with and without sodium benzoate, were subjected to thorough clinical and medical observation. Ordinarily fruit manufacturers, according to the report, use 0·1 gramme of 1 per cent. sodium benzoate, so that only by eating two-thirds of a pound of the preserved fruit could a daily dose of 0·3 gramme of the salt be received. This was the minimum daily dose given in the clinics, and in many cases this was increased to the unusual amount of 4 grammes a day with no noticeable effects. The most important of the findings are: 1. Sodium benzoate in small doses (under 0·5 gramme per day), mixed with the food, is without deleterious or poisonous action, is not injurious to health. 2. Sodium benzoate in large doses (up to 4 grammes per day), mixed with the food, has not been found to exert any deleterious effect on the general health or to act as a poison in the general acceptation of the term. In some directions there were slight modifications in certain physiological processes, the exact significance of which modifications is not known. 3. The admixture of sodium benzoate with food in small or large doses has not been found to affect or impair injuriously the quality or nutritive value of such food. The divergence between this report and that of Dr. Wiley has been brought to the attention of the Congress. Undoubtedly the public feeling and interest are strongly in favour of the position of Dr. Wiley and are in full sympathy with the objects of an organisation formed to oppose any change in the existing law, entitled the "American Association for the Promotion of Purity of Food Products." The new association is largely composed of the most respectable food producers of the country and in its first public announcement it states that, "So long as any of the food-product industries are permitted to use artificial preservatives and colouring matters or other injurious and doubtful adulterants in foods, and unwholesome raw materials and practices in food preparation, the legitimate trade must bear a part of the disgrace which these adulterations bring upon the whole food-producing industry."

Perils of the Common Drinking-cup in the Public Schools.

An agitation has been started against the use of the common drinking-cup in the public schools. When the inquiry was first made it was found that 90 per cent. of the public schools used the common cup, and investigations as to the danger of such use were made by health authorities. The results have excited great public interest and a wide-spread demand for reform. Professor Davidson of Lafayette College has published the results of his bacteriological investigations of the conditions which follow the use of a common cup by children. He required ten schoolboys to apply the upper lip to pieces of flat sterilised glass in the same way they would in drinking. These slips of glass were then subjected to microscopic examination and they showed an average of about 100 human cells or minute bits of skin and 75,000 bacteria to each slip. He examined a thin drinking-glass which had been in use for a period of nine days in a public school and found by counting the cells on 50 different areas on the glass the estimated number to be 20,000 cells or bits of dead skin, to each of which were clinging from 10 to 150 bacteria. The results of investigations into the sources of epidemics among school children have proved that many have had their origin in the common drinking-cup.

The Antitrust Law and the Fees of Physicians.

A number of physicians in the State of Iowa were indicted by the Grand Jury for entering into an agreement, combination, or understanding to fix and to maintain fees and charges to be exacted for medical and surgical services. The question before the court was thus stated: "Are the charges of a physician or surgeon for his medical skill or ability an article of merchandise or commodity to be produced or sold?" It was contended that the word commodity is broad enough to cover the charge made for professional services or skill. The court held that the statute was aimed at unlawful conspiracies or combinations in restraint of trade and was manifestly not intended to cover labour unions. That the practice of medicine and surgery is labour the court believed that no one would question, and on this ground the case was decided in favour of the physicians' right to fix their fees for services.

The Philippine Medical School.

Professor Freer, director of the Bureau of Science and dean of the Philippine Medical School, gives as the reason for establishing the school the importance of creating a native medical profession which will secure the confidence and coöperation of the people in enforcing sanitary regulations both in the communities and in their individual homes. The school is now fully equipped for thorough work in giving instruction in anatomy, pathology, bacteriology, physiology, and chemistry, and in clinical medicine and surgery. The dean states that the students are enthusiastic and certainly perform their duties well. He regards the Philippine Medical School as one of the most notable and creditable works of the present Government, and in it Americans and Filipinos are working side by side, advancing the standard of medical education as well as the prosperity and well-being of the country.

Feb. 2nd.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Inoculation at Karachi.

THE Bombay corporation has made fitful attempts to get its employees inoculated against plague, but with no such set purpose as is necessary in order to secure continuous results. At Karachi, however, at the beginning of last year, almost the whole of the municipal sweepers were inoculated. The mortality from plague amongst the uninoculated was 11 and amongst the inoculated 3; or to put the result in another way, if the 1114 inoculated had suffered in the same way as the 92 uninoculated, they would have had 157 attacks and 133 deaths instead of six attacks and three deaths, a difference of 96 per cent. Out of the six inoculated persons attacked, however, three were seized five days after inoculation, showing that they had the germs of disease in them when they were treated, and out of these three one died. Yet there are people in India who have the temerity to say that they do not believe in inoculation.

Bombay Milk Supply.

It is a matter of common knowledge that the milk-supply in Bombay is open to sources of contamination and is adulterated with water to an amazing degree. But drastic measures can have no real effect until the common milk-dealer and cattle-tender have had their minds raised to an appreciation why disease and filthy habits and the addition of dirty water to the pail ought to be put a stop to. So far as present conditions allow, the health department is actively working in the direction of improvement. Details of its campaign I hope to explain in a later article, but as an example attention may now be called to the admirable step taken by Dr. J. A. Turner, the medical officer of health, in arranging a meeting at Byculla when a few simple hints were addressed to a gathering of over 200 cattle-owners and milk-dealers. The process of education may be slow, but by thus getting hold of the people and instilling a few simple ideas into their minds a beginning is made in paving the way for the hygienic measures which it is now useless to attempt to enforce.

Sanitation in Lahore.

In June last, under orders from the Punjab Government, the Sanitary Commissioner of the Punjab made a thorough and careful inspection of the arrangements for the conservancy and sanitation of Lahore. Major E. Wilkinson, I.M.S., visited certain quarters of the city as well as the civil station, and his report shows that energetic and concerted action in more than one direction will have to be taken before Lahore can be considered to be out of danger and in a satisfactory condition in the matter of its conservancy and sanitary arrangements. A committee will shortly assemble under the orders of Government to consider the whole question, and the municipal committee has been requested to nominate a number of its members to take part in the deliberations. The sanitary and hygienic condition of the capital of the province is not more a local than a provincial concern, and of late the Government has doubtless come to feel that strongly. What is not quite clear is whether the

new political reforms, which appear to aim at freeing municipal and other local bodies from official leading-strings, will countenance official efforts, however well-meaning, to rescue municipalities from difficulties.

Bombay Medical Congress.

Elaborate preparations are being made for the Bombay Medical Congress which will be opened in the Convocation Hall of the University of Bombay on Feb. 22nd by Sir George Clarke, the Governor of Bombay. It was from Sir George Clarke that the idea of the Congress emanated. He has accepted the position of president and he is taking an active interest in the arrangements. There is little doubt, therefore, that the Congress will be successful. The subjects to be discussed have been divided into five sections, which will sit simultaneously.

First-Aid in the Mercantile Marine.

The Lieutenant-Governor of Bengal has made the following revised rule regarding the knowledge of first-aid to the injured to be required from candidates for certificates of competency as master or mate in the Mercantile Marine:—

> Candidates for certificates of competency, possessing a knowledge of "First-Aid to the Injured," should produce a certificate granted by the St. John Ambulance Association, or the St. Andrew's Ambulance Association to prove this. This certificate must have been obtained within three years from the date of examination and when the candidate was not less than 16 years old.

The Government has arranged with the St. John Ambulance Association for special facilities to be provided in Calcutta for the instruction and examination of candidates in this subject, and those desirous of obtaining a certificate from the Association showing that they have a knowledge of first-aid to the injured should submit their application to the port officer of Calcutta, who will place them in communication with the local secretary of the Association.

Changes in Principal Medical Officers.

Colonel P. M. Ellis, R.A.M.C., has been appointed principal medical officer, 8th (Lucknow) Division, *vice* Surgeon-General W. B. Slaughter, retired. Colonel D. O'Sullivan, R.A.M.C., has been appointed principal medical officer, 4th (Quetta) Division, *vice* Colonel Ellis, R.A.M.C., transferred. Colonel O. E. P. Lloyd, V.C., R.A.M.C., has been appointed principal medical officer, 7th (Meerut) Division, and not to the 1st (Peshawar) Division, as previously reported, *vice* Colonel H. K. McKay, I.M.S., transferred to Burma Division. Colonel H. St. C. Carruthers, I.M.S., has been appointed principal medical officer, Kohat Brigade, and not to Abbottabad and Sialkote Brigade (temporary), as previously reported, *vice* Colonel C. H. Beatson, I.M.S., transferred.

Jan. 14th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

The Prospects of Medical Practice in China.

ON more than one occasion I have received letters asking about the openings for medical practice in China. Unless for religious and philanthropical medical work among the Chinese, the great hinterland is practically a sealed book; it is only in the ports thrown open to foreigners by the Treaties of Nanking and Tientsin that there are facilities for Western medical practice. By far the greater number of medical men in China are in the service of Christian missions. Some of these confine themselves entirely to work among the Chinese, while others attend as many foreigners as possible, with the object of devoting the fees thus earned to the upkeep of their hospitals. There are no laws which regulate the practice of medicine in China. Anyone, qualified or not, may prescribe for and treat the public. Some years ago in Shanghai a "quack" without any pretence to a medical degree who had established a reputation for curing sprue was consulted by numbers of the foreigners there, sometimes with unfortunate results, as in the case of a well-known clergyman who died while undergoing the purgative treatment for sprue and whose case turned out to be one of enteric fever. But the numbers of unqualified practitioners are too few for them to be regarded seriously. Some medical men who lay themselves out for it find no lack of Chinese paying patients, especially among the mercantile better-off class who come much into contact with Europeans; but, on the whole, it may be said that with the exception of the poor who fill the mission hospitals the Chinese are content to be treated by their countrymen on empiric lines. In Peking, in addition to about 20 medical missionaries, there is an average of 15 official medical men attached to the Diplomatic Staffs and the various Legation Guards. The field for private venture is, therefore, limited to the treaty ports, and there the openings are few and far between. With the exception of Shanghai, nearly all the other ports have little more than a mere handful of residents—enough to afford a reasonably good practice for one man, or two at most. The foreign population of these ports is so international that if it be of any size there are usually to be found French and German medical men also. At such ports the number of private individuals is very small, the majority of the foreign residents belonging to some mercantile company or to the Imperial Maritime Customs Service, and by an old-established Chinese custom most of these firms have their employees cared for medically at an all-round average rate of 10*s.* per head per month. Perhaps a brief *résumé* of the various ports might give some idea of what medical opportunities there may be to that large class of medical men who may cast their eyes abroad, say to China, as a possible ground for establishing a practice. First as regards Shanghai, the biggest by far of all the treaty ports. Here there are 4000 British inhabitants out of a total number (according to a recent census) of 12,328 foreigners. In addition to medical men of other nationalties and a goodly number of medical missionaries there are ten British medical men practising privately, not counting the staff of the Municipal Public Health Department. Of these ten practitioners, four are partners in one firm and three of the others are also in partnership. There are also Chinese European-trained medical men. The climate is, on the whole, a good one, and many well-to-do merchants bring up their families without the necessity of having to send them home at an early age, as in India. There is an exodus to Japan, Wei-hai-Wei, or some of the more northern ports during the hot weather. The next biggest port is Tientsin, which, like Shanghai, is made up of a number of concessions, where the different communities have medical men of their own nationality. In the British concession there are five medical men, three of whom work in partnership. The great part of this firm's business is contract practice. There are two medical colleges in Tientsin, principally for training candidates for the Army Medical Service. In one the staff is Chinese and French and in the other Chinese and Japanese. The names of the other treaty ports in order of size and importance are Canton, Hankow, Chefoo, Amoy, Neuchuang, Foochow, Swatow, Ningpo, Kiukiang, Soochow, and Wei-hai-Wei. In each of these places there are medical men attached to the consulates and customs staff who leave very little of the available practice unaccounted for. From the foregoing account there would appear to be little inducement to venture into medical practice here, but for any medical man able to wait some time, say a year after arrival, especially if he be well qualified and able to show some degree of success in any special branch, such as abdominal surgery, gynæcology, ophthalmology, or public health, &c., the prospect is not a bad one. From time to time openings occur—e.g., that of medical officer to some big mining or engineering syndicate or some of the numerous railway concerns that are springing up here and there throughout the country—and these are given preferably to men on the spot. The past six years have seen a tremendous development of China's resources and huge industries such as steel and ironworks, mints, and arsenals are being started and the Chinese are not long in recognising that the frequent accidents that workmen suffer from in handling complex machinery can only be properly dealt with by foreign surgery. In such cases it is highly desirable for the medical man to have a colloquial knowledge of the spoken language which is not very difficult and can be acquired in nine or ten months. There are not wanting signs indicating that plague is going to revisit China in a more extended fashion than has been the case for many years past. The general lack of sanitation and habits of the people are factors favourable to its spread. The Chinese have already learnt enough to know that in any future serious outbreaks they must look to foreign medical science to help them. There would thus be another field open to those who may be able to show special qualifications.

Jan. 11th

Medical News.

UNIVERSITY OF EDINBURGH.—The following candidates have passed at the January examinations for the Diploma in Tropical Medicine and Hygiene:—

Samuel Alexander M'Clintock, M.B., Ch.B.; Stewart M'Naughton, M.B., Ch.B.; and Hugh Lancelot Sells, M.B., Ch.B.

THE APOTHECARIES' HALL OF IRELAND.—The following candidates having passed the necessary examinations have been granted the diploma:—

Charles J. Neilan, Thomas Edwin Johnson, and Edmund Smith.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* The expected exchange of the Physiological and Hygienic Institutes has now been definitely arranged by the Minister of Finance, Dr. Rübner taking the Physiological Professorship and Dr. Flügge the Chair of Hygiene. Dr. Hermann Beitzke, *privat-docent* of Pathological Anatomy, has been granted the title of Professor. Dr. Georg Axhausen, Assistant in the Surgical Clinic of the Charité, has been recognised as *privat-docent* of Surgery.—*Gratz:* Dr. O. Mayer has been recognised as *privat-docent* of Otology and Laryngology.—*Lyons:* Dr. Cluzet, *agrégé* in the Toulouse Medical Faculty, has been appointed to the chair of Medical Physics. Dr. Robert Rochet, *agrégé*, has been appointed to an assistant professorship.—*Marburg:* Dr. Hübner has been recognised as *privat-docent* of Dermatology.—*Paris:* Dr. Gilbert Ballet, Professor of the History of Medicine and Surgery, has been appointed Clinical Professor of Mental Pathology and of Diseases of the Brain in succession to the late Dr. Joffroy.—*Prague:* In consequence of political occurrences several of the German professors and lecturers have recognised that their positions are, for the present at least, untenable and a general exodus seems imminent. In the Bohemian University Dr. Karl Svehla has been appointed Extraordinary Professor of Children's Diseases.—*Tübingen:* A new University Odontological Institute is to be established with an Extraordinary Professorship of Odontology.—*Vienna:* The chair of Ophthalmology, vacated by the death of Dr. Schnabel, has not yet been filled up. The following selections have, however, just been announced: (1) Professor Uhthoff of Breslau; (2) Professor Wilhelm Hess of Würzburg; and (3) Professor Friedrich Dimmer of Gratz. Dr. S. Jellinek has been recognised as *privat-docent* of Electro-pathology.—*Zürich:* Dr. M. Oskar Wyss has been recognised as *privat-docent* of the Surgery of Tumours and of Surgical Tuberculosis.

PONTYPOOL HOSPITAL.—The annual report of the Pontypool Hospital is always of interest because it refers to an institution which from its inception has been supported and managed to a very large extent by working men. It was opened in the autumn of 1903 and although the total cost, including furnishing, was £8500, all but £6 of this sum had been subscribed before the buildings were completed. There is accommodation for 19 patients—eight men, eight women, one case of accident, and two hernia patients. The accommodation for these last two is provided for out of a legacy left by the late Mr. R. Coslett of Bristol. Mr. Coslett died in 1895 and left £1000 and an annuity of £100 for the establishment and endowment of a home at Pontypool for poor persons suffering from rupture. It was found, however, that it would be impossible to carry out such a scheme, for the home, together with the site, was estimated to cost £1800 and the maintenance about £300 per annum. The Court of Chancery was therefore approached and the money intended for the home was diverted to the hospital trustees on the understanding that two beds would be set apart for ruptured persons. The maintenance of the hospital is provided for mainly by the colliers living in the district, to whose contributions about 25 per cent. is added by the colliery owners. In 1907 there were treated in the wards 250 patients, and in 1908 this number had increased to 336. The increasing use which is being made of the institution has necessitated further accommodation which is to be met by the erection of an additional wing, the cost of which will be defrayed by Mr. J. C. Hanbury of Pontypool Park, who presented the site on which the hospital is built, together with a handsome contribution to the building fund.

ON the occasion of the German Emperor's fiftieth birthday Dr. Zunker, physician to the Empress, has been granted the rank of "Excellency."

ROYAL INSTITUTION OF GREAT BRITAIN.—A course of lectures on the Evolution of the Brain as an Organ of Mind, by Professor Frederick Walker Mott, F.R.S., will be delivered at 3 o'clock on Tuesdays, Feb. 23rd and March 2nd, 9th, 16th, 23rd, and 30th.

LITERARY INTELLIGENCE.—Mr. Alston Rivers announces for publication on Feb. 12th a volume entitled "Labour and Housing at Port Sunlight," by Mr. W. L. George, author of "France in the Twentieth Century." Mr. George has made a careful survey of the first attempt at a model village.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Charles Denison, formerly professor of climatology in the Denver and Gross College of Medicine.—Dr. J. E. Marques, formerly professor of clinical medicine in the University of Coimbra.—Dr. Ewald Hecker of Wiesbaden, who was recently granted the honorary title of professor.—Dr. Ranneft, formerly *privat-docent* of orthopædic surgery in the University of Groningen.

MIDWIVES ACT COMMITTEE.—The third meeting of the departmental committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held at the Privy Council Office on Feb. 4th, Mr. Almeric FitzRoy, C.V.O., being in the chair. Miss Bertha M. Broadwood, honorary secretary and director of the Cottage Benefit Nursing Association, and Miss Rosalind Paget, honorary treasurer of the Incorporated Midwives Institute, attended and gave evidence on behalf of their respective institutions.

A MEDICAL MAN'S BRAVERY.—At a recent meeting of the Leicester town council the mayor presented Dr. James Sholto Cameron Douglas with the certificate and bronze medal of the Royal Humane Society for his bravery in rescuing a young lady from drowning at Trevone Bay, Cornwall, in July last, in circumstances already recorded in THE LANCET. The mayor, Alderman Larkin, in making the presentations, said "that he was the more pleased to present these inasmuch as the recipient was a member of the medical profession, who were daily risking their lives in the quiet efforts to do good by trying to save life."

THE AFTER-CARE ASSOCIATION.—The annual meeting of the After-Care Association was held on Feb. 3rd at 26, Devonshire-place, London, W., the house of Dr. G. H. Savage, the honorary treasurer of the association. Dr. Savage presided and among those present were the Bishop of Croydon, Dr. D. Nicolson, C.B., Dr. E. M. Cooke, Dr. G. F. Blandford, Dr. Robert Jones, and Mr. G. H. Tennant, M.P. (Under Secretary to the Board of Trade). The report of the council for 1908 stated that the most important function of the association is the finding of suitable occupations for mental convalescents. During the year applications were received from 248 women and 140 men, a total of 388, as compared with 348 in 1907. The receipts amounted to £1054 and the expenditure to £879. The council emphasises the fact that as years pass by it is more and more convinced that personal influence is the essential factor in dealing with cases of recovery from mental illness. Dr. Jones read some extracts from a paper entitled "The Urgent Necessity of Helping Mental Convalescents," which will be printed and distributed by the association. He said that a long experience at two of the largest London asylums had convinced him that the association was doing invaluable service. There were to-day probably more than 128,000 insane persons in England and Wales, and our boasted civilisation was probably manufacturing more at the rate of six or seven per day. In London asylums alone there were 20,000 insane persons, of whom over 11,000 were women. There were over 8000 reported by the Commissioners in Lunacy in their report of 1908, to have been discharged from asylums recovered, and from the London asylums 1228, of whom 705 were women. It was imperative that all cases should be assisted, yet the society had not adequate means to

render efficient help. All communications should be made to the Secretary, Mr. H. Thornhill Roxby, Church House, Dean's Yard, Westminster, S.W., by whom contributions will be thankfully received, or they may be paid into the account of the "After-Care Association," Union of London and Smiths' Bank (Victoria-street Branch), Westminster, London, S.W.

WARNEFORD HOSPITAL.—At Warneford Hospital, Leamington Spa, on Feb. 3rd, an oil painting of Dr. T. W. Thursfield, J.P., senior honorary physician to the hospital, was unveiled on behalf of the subscribers by Major Chesshyre Molyneux, chairman of the committee, and presented to the hospital. Dr. Thursfield has worked for the hospital for over 27 years. He has been a member of Leamington town council for 27 years and has been thrice mayor. He is also a life member of the Court of Governors of the University of Birmingham.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next quarterly meeting of the association will take place in Cambridge, by the courtesy of the University authorities, in the large theatre of the new medical schools (entrance, east end of the building, Downing-street), on Tuesday, Feb. 23rd, 1909, at 3 o'clock, under the presidency of Dr. Charles A. Mercier. Dr. H. B. Donkin will introduce a discussion on the Certification of Mental Defectives as proposed in the Report of the Royal Commission on the Control of the Feeble-minded. Dr. William Graham will read a paper on "The Modern Movement in Psycho-therapy." Members will dine together at 6.45 P.M. at the University Arms Hotel.

WEST AFRICAN MEDICAL STAFF.—The following officers have retired: Dr. J. Davidson, medical officer, Northern Nigeria (July 9th, 1908); Mr. E. J. Moore, medical officer, Southern Nigeria, on pension (Oct. 15th, 1908); and Mr. J. C. Bhuttacharji, medical officer, Gold Coast, on pension (Jan. 18th, 1909). The following officers have resigned: Mr. J. Thorp Waite, medical officer, Northern Nigeria (August 12th, 1908); Dr. H. W. Gush, medical officer, Gold Coast (August 22nd, 1908); and Mr. R. H. Brierley, medical officer, Southern Nigeria (Dec. 6th, 1908). The following gentlemen have been appointed to the staff: Mr. R. Welply, Southern Nigeria (May 30th, 1908); Dr. W. F. Roach, Southern Nigeria (June 27th, 1908); Mr. F. W. McCay, Northern Nigeria (August 1st, 1908); Dr. E. J. Porteous, Northern Nigeria (Sept. 5th, 1908); Mr. A. M. Dowdall, Gold Coast (Sept. 12th, 1908); Dr. R. Whyte, Gold Coast (Sept. 26th, 1908); Dr. J. McConaghy, Sierra Leone (Oct. 10th, 1908); Dr. P. J. Kelly, Gold Coast (Oct. 17th, 1908); Dr. R. E. McConnell, Gold Coast (Nov. 28th, 1908); Dr. A. E. Neale, Southern Nigeria (Jan. 2nd, 1909); Dr. G. Wilson, Southern Nigeria (Jan. 2nd, 1909); Dr. J. G. Copland, Southern Nigeria (Jan. 16th, 1909); Mr. S. L. G. D. Maclaine, Southern Nigeria (Jan. 16th, 1909); Dr. T. H. Suffern, Southern Nigeria (Jan. 16th, 1909); and Mr. F. G. Sharpe, Gold Coast (Jan. 30th, 1909). Mr. H. T. Cookman, L.R.C.P., L.R.C.S. Irel., medical officer, Gold Coast, has died at Cape Coast on Jan. 29th from paralysis and heart failure.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

AWDRY, WALTER ROBERT, M.B. Durh., M.R.C.S., has been appointed Medical Officer to the Berkeley (Gloucestershire) Hospital.

BATTEN, RAYNER WINTERBOTHAM, M.D. Lond., F.R.C.P. Lond., M.R.C.S., has been appointed Honorary Consulting Physician to the Berkeley (Gloucestershire) Hospital.

BIRD, GERALD F., M.B. Cantab., M.R.C.S. Eng., has been appointed Medical Officer and Public Vaccinator to the Godalming District of the Guildford Union.

CHAPMAN, WALTER, M.B., B Ch. Birm., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Fourth District of the Totnes (Devon) Union.

CLARE, T. C., M.B., B.S. Lond., has been appointed House Surgeon at the Chelsea Hospital for Women.

EDMOND, WILLIAM RICHARDSON, M.B., C.M. Edin., M.R.C.S., L.R.C.P. Edin., has been appointed District Medical Officer by the Totnes (Devon) Board of Guardians.

ELLERTON, H. BYAM, M.R.C.S., L.R.C.P. Lond., has been appointed Inspector of Asylums in Queensland and Medical Superintendent of Goodna Asylum, near Brisbane.

FAIRWEATHER, A. F. A., M.B., M.S. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Pocklington District of the county of York.

FINLAY, DOUGLAS EDWARD, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Gloucester General Infirmary and Gloucestershire Eye Institution.

HOBBS, EDWARD COOMBER, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Junior House Surgeon at the Miller General Hospital, S.E.

MILLER, REGINALD, M.D., B.S. Lond., M.R.C.P. Lond., has been appointed Medical Registrar to St. Mary's Hospital, Paddington.

MUNRO, DONALD JOHN, B.S., M.B. Lond., has been appointed Honorary Anæsthetist to the Metropolitan Ear, Nose, and Throat Hospital.

SHEARER, A., M.B., B.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Newtown District of the county of Montgomery.

SOPER, GERALD MORGAN, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Totnes (Devon) Board of Guardians.

STYLE, FREDERIC WILLIAM, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the South Brent, Ugborough, and North Huish Districts of the Totnes (Devon) Union.

THORNELY, Captain M. H., I.M.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

UBSDELL, HENRY, M.R.C.S., L.S.A., has been appointed District Medical Officer by the Totnes (Devon) Board of Guardians.

WAY, A. O., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Winchester District of the county of Hants.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AUSTRALIA, LUNATIC ASYLUM, Toowoomba.—Assistant Medical Superintendent. Salary £400 per annum, with quarters, fuel, and light.

BATH, ROYAL UNITED HOSPITAL.—House Physician. Salary £80 per annum, with board, lodging, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Assistant Surgeon.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, Birmingham.—Clinical Assistant. Salary at rate of 52 guineas per annum.

BRADFORD ROYAL INFIRMARY.—House Physician. Also Two House Surgeons. Salary in each case £100 per annum, with board and residence.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £50 per annum.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BRIXTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, coal, and gas.

CANCER HOSPITAL, Fulham-road, London, S.W.—First Assistant to the Research Department. Salary £350 per annum. Also House Surgeon. Salary £70 per annum, with board and residence.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, washing, &c.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

DERBY COUNTY ASYLUM, Mickleover.—Junior Assistant Medical Officer. Salary £120 per annum, with apartments, board, washing, and attendance.

DEVON, WESTERN COUNTIES' ASYLUM, Starcross.—Medical Officer (non-resident). Salary £150 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150 per annum, with board, laundry, and attendance.

GAIRLOCH, SOUTHERN DIVISION OF THE PARISH.—Medical Officer. Salary at rate of £150 per annum.

GLASGOW LUNACY DISTRICT BOARD MENTAL HOSPITAL, Woodilee, Lenzie.—Junior Assistant Medical Officer. Salary £125 per annum, with board, lodging, washing, &c.

HALIFAX, ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum and board.

KING'S COLLEGE HOSPITAL.—Assistant Clinical Pathologist.

LEICESTER INFIRMARY.—House Physician. Salary at rate of £100 per annum, with board, lodging, and washing.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—House Surgeon. Salary at rate of £60 per annum, with residence and maintenance.

LIVERPOOL WORKHOUSE, Brownlow Hill.—Assistant Medical Officer. Salary £100 per annum, with rations.

LONDON HOSPITAL, Whitechapel, E.—Medical Registrar. Salary £100 per annum.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Assistant Surgeon. Also House Surgeon for six months. Salary at rate of £50 per annum.

MANCHESTER, BAGULEY SANATORIUM.—Assistant Medical Officer for six months. Salary £100 per annum, with board, lodging, and washing.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer, unmarried. Salary £40, rising to £50 per annum.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salary £25, with board and residence.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, London, W.C.—Medical Superintendent. Salary £100 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Clinical Assistant for the Out-patient Department.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—House Physician for six months. Salary at rate of £80 per annum, with board, &c. Also Junior House Surgeon for six months. Salary at rate of £40 per annum, with board, &c.

ROSS-SHIRE, PARISH OF RESOLIS AND DISTRICT.—Resident Medical Officer. Salary £82 10s. per annum.

ROXBURGH DISTRICT ASYLUM, Melrose.—Assistant Medical Officer. Salary £150 per annum, with board, rooms, and washing.

ROYAL NAVAL MEDICAL SERVICE.—Examination for 15 Commissions.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Assistant House Surgeon for six months. Salary £20, with luncheon and tea.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident Assistant House Surgeon. Salary £60 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with all found.

SAINT PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Resident Medical Officer. Salary £100 per annum, with residence and attendance.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also Assistant Surgeon.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and residence.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

WAKEFIELD, WEST RIDING ASYLUM.—Pathologist and Assistant Medical Officer. Salary £250 per annum, with board, apartments, and attendance.

WELLS, SOMERSET AND BATH ASYLUM.—Second Assistant Medical Officer. Salary £130 per annum, with board, lodging, washing, and attendance.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians and Three House Surgeons for six months. Board, lodging, and laundry allowance provided.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Ophthalmic Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

DICKSON.—On Feb. 4th, at Findhorn-place, Edinburgh, the wife of W. E. Carnegie Dickson, M.D., F.R.C.P. Edin., University of Edinburgh, of a daughter.

FITZWILLIAMS.—On Feb. 9th, the wife of Duncan C. L. Fitzwilliams, F.R.C.S., 64, Brook-street, W., of a son.

KAYE.—On Feb. 1st, at Eaglestone, Strathpeffer, N.B., the wife of H. W. Kaye, M.D., of a son.

LANGDON-DOWN.—On Feb. 7th, at Dixland, Hampton Wick, the wife of Percival L. Langdon-Down, M.B., B.C., of a daughter.

LETCHWORTH.—On Feb. 2nd, at St. Ives, Churchfield-road, Walton-on-Thames, the wife of T. W. Letchworth, M.B., of a son.

MARRIAGES.

WESTERMAN—DAVIES.—On Jan. 26th, at the Tabernacle, Llanelly, S. Wales, Arthur Westerman, M.D., Snow-hill, London, to Mary Davies, youngest daughter of William Davies, Greenfields, Llanelly.

DEATHS.

BURTON.—On (Feb. 2nd, at St. Winifred's, Reigate, Joseph Stewart Burton, M.R.C.S., L.S.A., in his 82nd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

During the week marked copies of the following newspapers have been received:—*Leamington, Warwick and County Chronicle, Manchester Courier, Birmingham Gazette, L'Auto, Black and White, Western Gazette, The Tatler, Glasgow Citizen, Newcastle Journal, Bristol Mercury, Golf Illustrated, The Statesman, Bradford Argus, Scottish Weekly Record, Aberdeen Herald, Manchester Despatch, Bournemouth Directory, Journal of Gas Lighting, Morning Post, Leeds Mercury, Oxford Weekly News, Yorkshire Observer, &c.*

Notes, Short Comments, and Answers to Correspondents.

HOSPITAL ABUSE.

WE have often alluded in these columns to the fact that the benefits of our hospitals are much demanded and received by persons who have no right whatever to the assistance of a charity. Persons who can perfectly well pay for medical attendance receive ministrations at the hospitals, which means that they perpetrate a triple fraud: (1) on the public whose contributions are diverted from their proper objects; (2) on the genuine sick poor who are crowded out of the relief which should be theirs; and (3) on the medical men who are deprived of legitimate sources of fees. Mr. E. M. Corner, assistant surgeon to St. Thomas's Hospital, has sent us the details of a fine example of the abuse which was discovered by the lady almoner to the hospital, and the incident well illustrates the value of the employment of an almoner. A man at a Bayswater boarding-house who presented himself as an out-patient was found to possess a private income of £275 per annum and to have led the life of an independent gentleman for 15 years.

MEDICAL AID FOR THREEPENCE A WEEK.

IN many of the out-patient departments of the University clinics in Berlin the former system of placing a collecting box for patients' contributions has been changed for a regular charge of threepence for a week's treatment, tickets being sold on these terms, the colour of the ticket indicating the day of the week. Paupers and very poor persons are exempted, but hospital abuse is, perhaps, as rife in Germany as in this country, and doubtless many patients manage to get attended for threepence who are quite able to afford themselves a considerable amount of luxury and therefore could well afford to pay their own medical attendant.

TWO FATALITIES DUE TO FLANNELETTE.

TWO inquests held recently by Dr. F. J. Waldo on the same day at Southwark gave the coroner opportunities for commenting upon the dangerous inflammability of flannelette which is used extensively for the underclothing of the children of the poorer classes. Dr. Waldo has called attention to this subject on many previous occasions and it is to be hoped that his observations may bear fruit. In the two instances referred to ordinary care on the part of persons who might have been expected to exercise it would have prevented the accidents into which the coroner inquired apart from the use of the flannelette, but its use contributed to the fatal result. In the first, a boy aged 13 years gave his little brother, two years of age, a box of matches to play with and left him alone in the room, with the result that he set light to his clothing and the window curtains. In the other a child, not quite two years old, left alone in a room where there was an unguarded fire ignited his clothes and sustained burns from which he died on the next day. The inflammability of flannelette is not very generally recognised by those who use it and one of the remedies suggested is the compulsory notification of this dangerous quality on the occasion of every sale by which flannelette or a garment containing it passes into the hands of a retail customer.

BOYS' RACES.

WE have received, in common with most of our contemporaries, a letter from Mr. Farmer, a well-known football player, condemning, on the strength of an inclosure signed by a group of well-known medical men, the procedure at flat-racing among schoolboys. From the comments we have read on this communication when it has appeared in other quarters we can only come to the conclusion that racing on the cinder-track has been confused with paper-chasing.

LINEN LIGATURES AND SUTURES.

Messrs. John Clarke and Co. of Belfast have sent to us some linen ligatures which we have examined and tested. Each ligature is rolled up into a minute ball measuring about a quarter of an inch in diameter and resembling, except in size, an ordinary ball of string. From the inside of the ball an end projects, and when this is pulled the ball readily unwinds and the piece of linen thread then measures more than four feet in length, so that it will form several sutures or ligatures. The thread is very strong and is very suitable for the purposes for which it is intended. Many surgeons are using linen thread and are satisfied with it, though it is not absorbable. These small balls are very convenient and they can be readily sterilised by boiling. The form in which the ligature is put up enables the surgeon to put out for an operation as many or as few as he may require, and therefore there is little waste.

A NEW WRITING COPIER.

WE have had an opportunity of testing the Ceres Writing Copier, invented and patented by Mr. T. Bowater Vernon and sold at the Ceres Depôt, 10, John-street, Adelphi, London, W.C. It consists of a shallow tin box, containing six transfer sheets, 20 sheets of copying paper, and samples of writing paper. The box measures, for the quarto size 12 inches by 8 inches by 1 inch in depth, and for the foolscap size 15 inches by 8 inches by 1 inch.

The various papers which are stored inside the tin box are, when needed for use, arranged on the outside of the closed box in the manner well known to all users of carbon transfer paper and they are kept in position by the flange of the narrow lid which is hinged on one end of the box. The letter is then written on the top paper in the ordinary fashion with pen and ink and the transfer sheet, which is of a special composition and very sensitive to impression, causes a very clear copy of the letter to appear on the buff copying paper. If a pencil instead of pen and ink is employed, half a dozen good copies of the original are easily obtained by using the requisite number of transfer sheets. A selection of testimonials from users of the apparatus shows that it is appreciated by them. We can quite imagine that the new writing copier would be useful in many circumstances where it is necessary to retain a copy of correspondence or to duplicate documents.

Socialism.—1. There is nothing in the information before us to show that the second medical man was aware that the patient was under our correspondent's care. On becoming aware of it he should have communicated with our correspondent. 2. The society may be fully justified in its action according to its rules, but we have not seen these. Common courtesy would lead the society to tell one medical officer that his patient was to be examined by another medical officer.

M.B.—We quite agree with our correspondent that the regulation which makes it necessary for a medical practitioner to pay a further fee for the registration of additional qualification is a little annoying, but the fault lies not with the General Medical Council but with the law. It is inaccurate to say that the General Medical Council puts a tax upon higher education while the fee for the registration of higher qualifications is optional.

Miles.—Our correspondent is advised to apply to the Surgeon-General, United States Army, at his Washington office.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—Leonard S. Dudgeon, O. Grünbaum): at 8.30 P.M.

Paper:

Dr. M. Greenwood, jun.: The Limits of Significance of the Opsonic Index.

The following will speak:—Colonel Leishman, Dr. Ledingham, Dr. Eyre, and Mr. Goadby.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 5 P.M.

Clinical Cases:

Dr. MacLeod: A Case of Lupus Erythematosus treated by Zinc Ionization. (And other Cases.)

FRIDAY.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.

Dr. C. Thurstan Holland: The X Ray Treatment of Exophthalmic Goitre.

Dr. A. Stanley Green: The Value of Röntgen Examination in Some Conditions of Diseased Bone.

Dr. A. Howard Pirie: Treatment of Tubercular Glands in Neck by means of X Rays.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—9 P.M., Dr. S. Martin: On Some Functional Disorders of the Stomach and Intestines: Their Diagnosis from Organic Disease and Treatment (Lettsomian Lecture).

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

MONDAY.—8 P.M., Mr. L. Gaster: Methods of Artificial Illumination. (Cantor Lecture.)

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-street, Chelsea, S.W.

TUESDAY.—8.30 P.M., Dr. A. Eddowes: On Boots, and the Treatment of Corns and Plantar Warts.—Dr. V. Bonney: Some Useful Prescriptions in the Practice of Gynæcology (illustrated by lantern slides).

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. A. A. C. E. Merlin: On a German-silver Powell Portable Microscope made in 1850.—Mr. G. S. West: The "Red Snow" Plant Sphærella Nivalis.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Mr. W. H. Winch: The Age of Entry into School in its Relation to Progress.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. E. G. Little: The Treatment of Skin Diseases by Ionization.—Dr. F. S. Langmead: Infant Feeding with Undiluted Citrated Milk.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Dr. H. G. Waters: A New Pathogenic Spirochæta associated with Bronchitis and Fever.—Dr. T. F. Macdonald: Tropical Notes from Barbados.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—4 P.M., Mr. H. Morris: Hunterian Oration.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. T. G. Adamson: Clinique (Skin). 5.15 P.M., Lecture: Mr. J. Sherren: The Diagnosis and Surgical Treatment of Duodenal Ulcer.

TUESDAY.—4 P.M., Dr. C. T. Williams: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. M. Corner: The Situations and Diagnosis of Obscure Fractures.

WEDNESDAY.—4 P.M., Mr. M. White: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. G. Little: The Treatment of Syphilis.

THURSDAY.—4 P.M., Mr. J. Cantlie: Clinique (Surgical). 5.15 P.M., Lecture: Dr. L. Smith: The Treatment of the Failing Heart.

FRIDAY.—4 P.M., Mr. A. Lawson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture: Dr. Low: Sleeping Sickness.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Robinson: Gynæcology.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Keetley: Clinical (with cases).

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture: Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Hood: Some Clinical Observations on Heart Disease.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Lantern-lecture:—Mr. H. Evans: Tumours of the Female Breast.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. W. Edmunds: The Diagnosis and Treatment of Fractures.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture: Mr. Turner: Some Common Rectal Complaints.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture: Dr. R. Wells: Aortic Disease.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Syphilis as it Modifies Other Eruptions of the Skin: Symptoms, Diagnosis, and Treatment.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration: Dr. F. Stewart.
WEDNESDAY.—3 P.M. Clinical Demonstration: Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.
FRIDAY.—5 P.M., Clinical Demonstration: Dr. E. Macnamara.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—Clinical Lecture:—Sir Victor Horsley: Surgery of the Nervous System.
FRIDAY.—Clinical Lecture:—Dr. Collier: The Treatment of Sciatica and Allied Affections.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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THE INDEX TO THE LANCET.

The Index and Title-page to Vol. II. of 1908, which was completed with the issue of Dec. 26th, were given in THE LANCET of Jan. 2nd, 1909.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 11th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 5	29·60	W.	...	67	52	50	49	51	Overcast
,, 6	30·14	NNW	...	63	46	38	38	40	Cloudy
,, 7	30·21	N.E.	...	62	44	33	31	33	Foggy
,, 8	30·25	E.	...	56	41	33	34	35	Overcast
,, 9	29·92	S.	...	53	43	35	35	37	Overcast
,, 10	29·38	W.	0·13	61	42	35	36	37	Snowing
,, 11	29·67	N.E.	0·05	46	40	35	37	38	Overcast

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